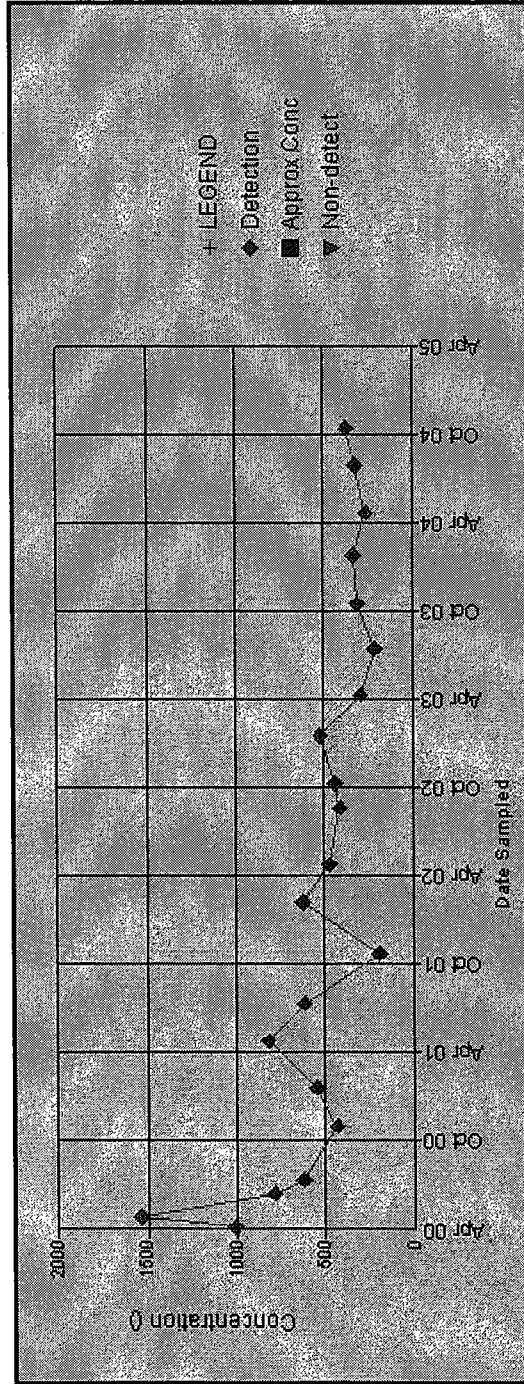


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Vandalia, OH
Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-408D

Statistic	Value
Sample Count	21
Average	529.2
Standard Deviation	313.6
Coefficient of Variation	0.592
Mann-Kendall Positives/Negatives	46/164
Mann-Kendall S statistic	-118
Z Test Statistic	-3.533
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



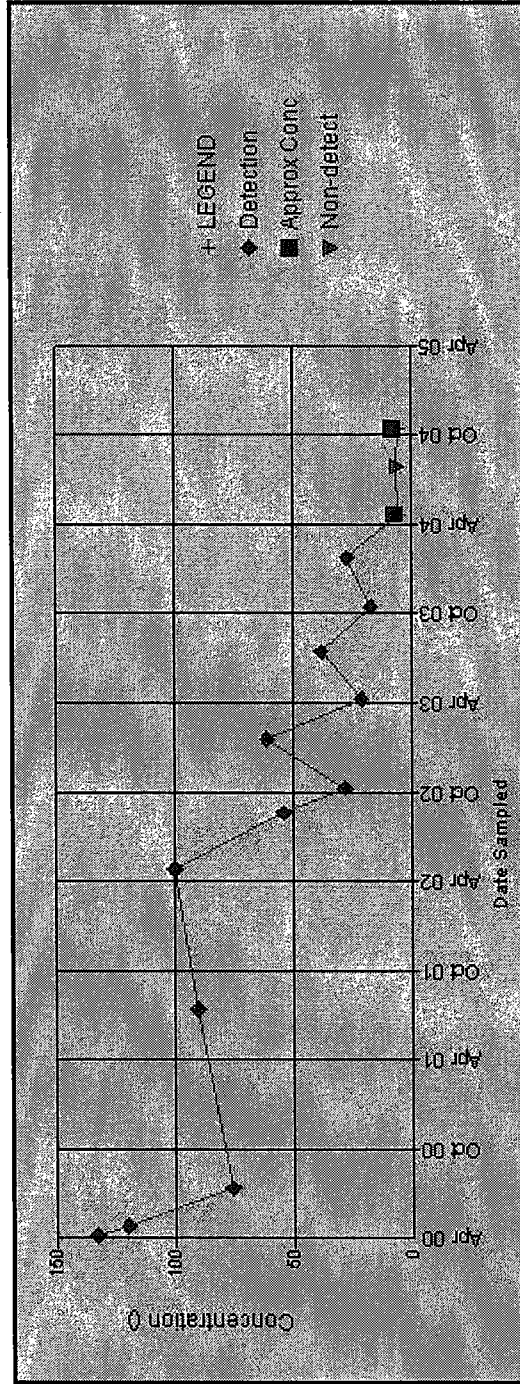
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-409D

Statistic	Value
Sample Count	15
Average	52.4
Standard Deviation	42.5
Coefficient of Variation	0.811
Mann-Kendall Positives/Negatives	11/94
Mann-Kendall S statistic	-83
Z Test Statistic	-4.058
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



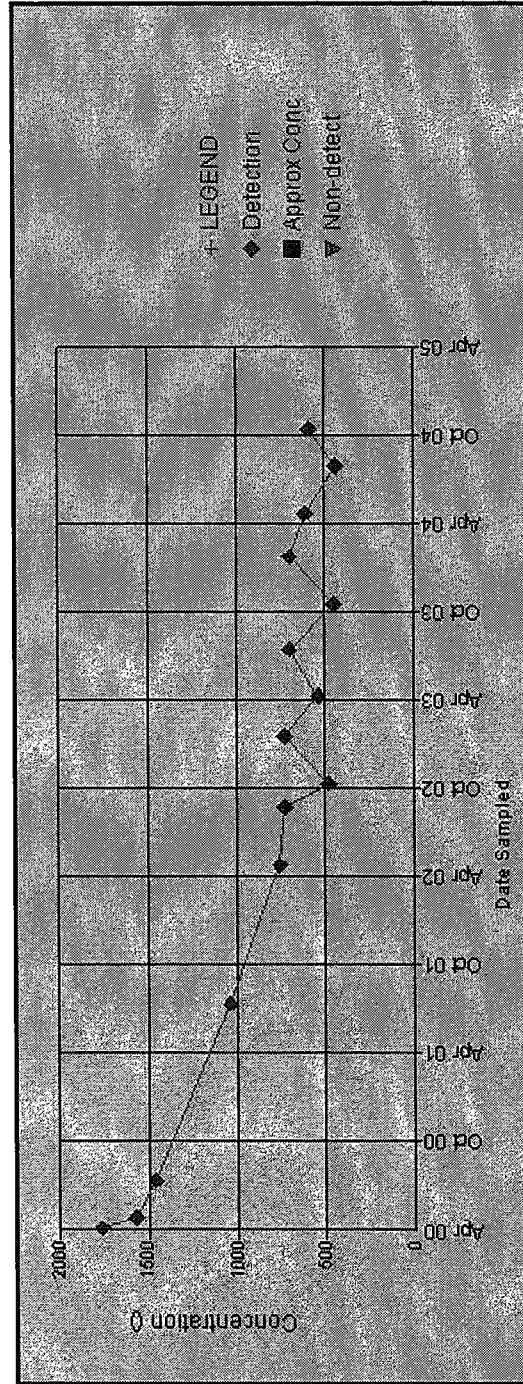
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-410D

Statistic	Value
Sample Count	15
Average	837.3
Standard Deviation	424.3
Coefficient of Variation	0.507
Mann-Kendall Positives/Negatives	14/89
Mann-Kendall S statistic	-75
Z Test Statistic	-3.671
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



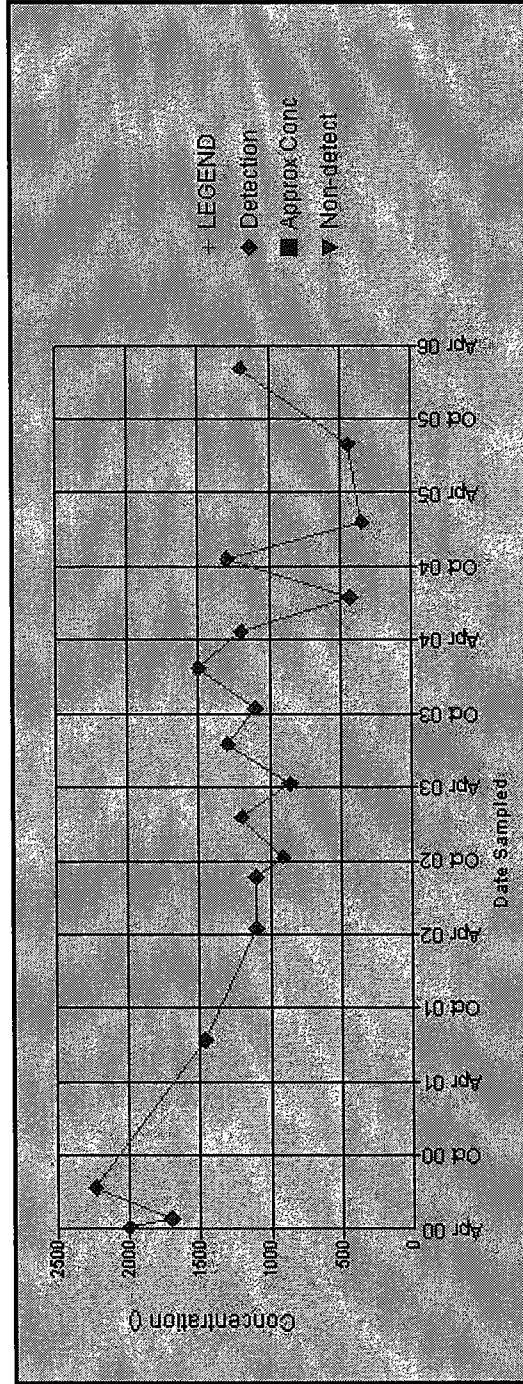
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-411D

Statistic	Value
Sample Count	18
Average	1,188.3
Standard Deviation	502.7
Coefficient of Variation	0.423
Mann-Kendall Positives/Negatives	43/103
Mann-Kendall S statistic	-60
Z Test Statistic	-2.248
Significance Level	-97.5%
Trend (80% Significance Threshold)	Decrease



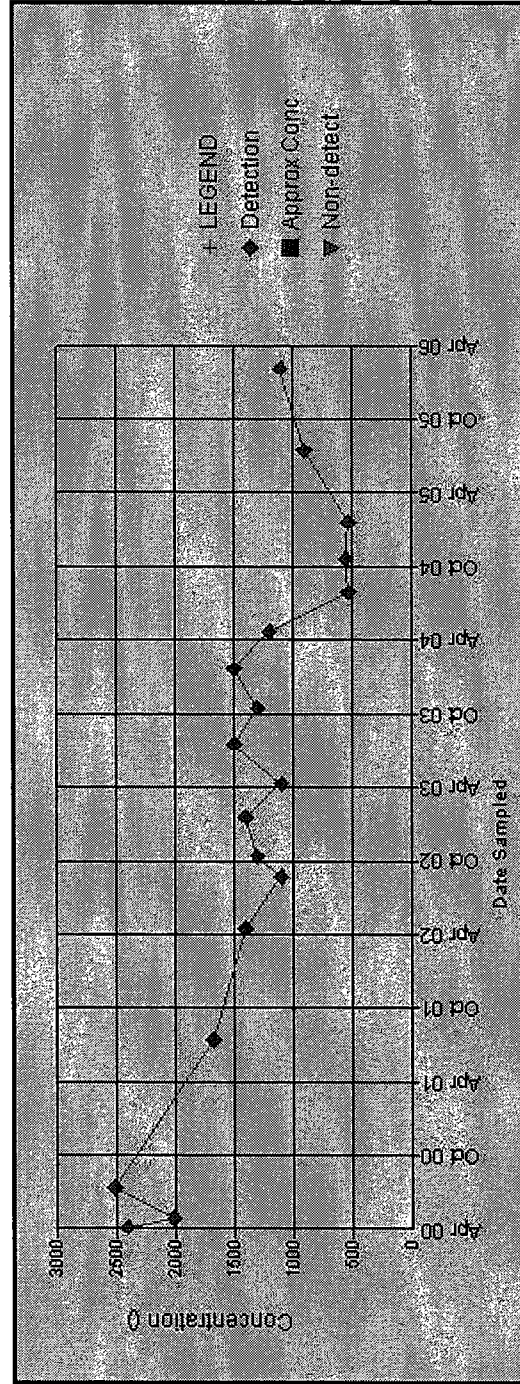
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-412D

Statistic	Value
Sample Count	18
Average	1,335.0
Standard Deviation	568.0
Coefficient of Variation	0.425
Mann-Kendall Positives/Negatives	28/118
Mann-Kendall S statistic	-90
Z Test Statistic	-3.390
Significance Level	-99.9%
Trend (80% Significance Threshold)	Decrease



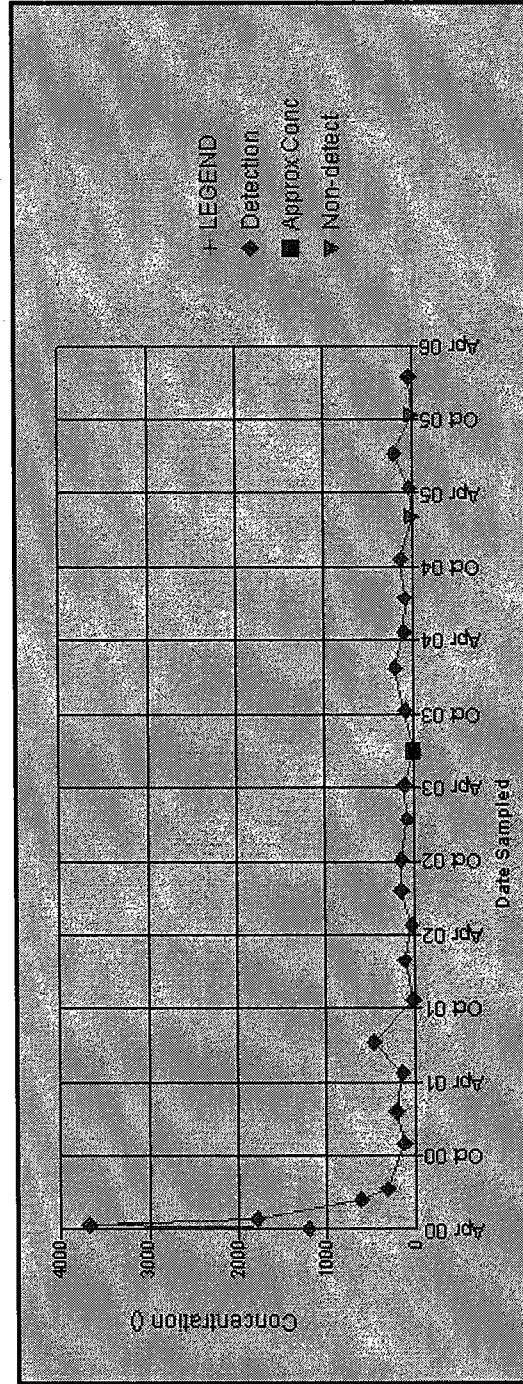
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-413D

Statistic	Value
Sample Count	27
Average	370.9
Standard Deviation	771.0
Coefficient of Variation	2.08
Mann-Kendall Positives/Negatives	85/265
Mann-Kendall S statistic	-180
Z Test Statistic	-3.732
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



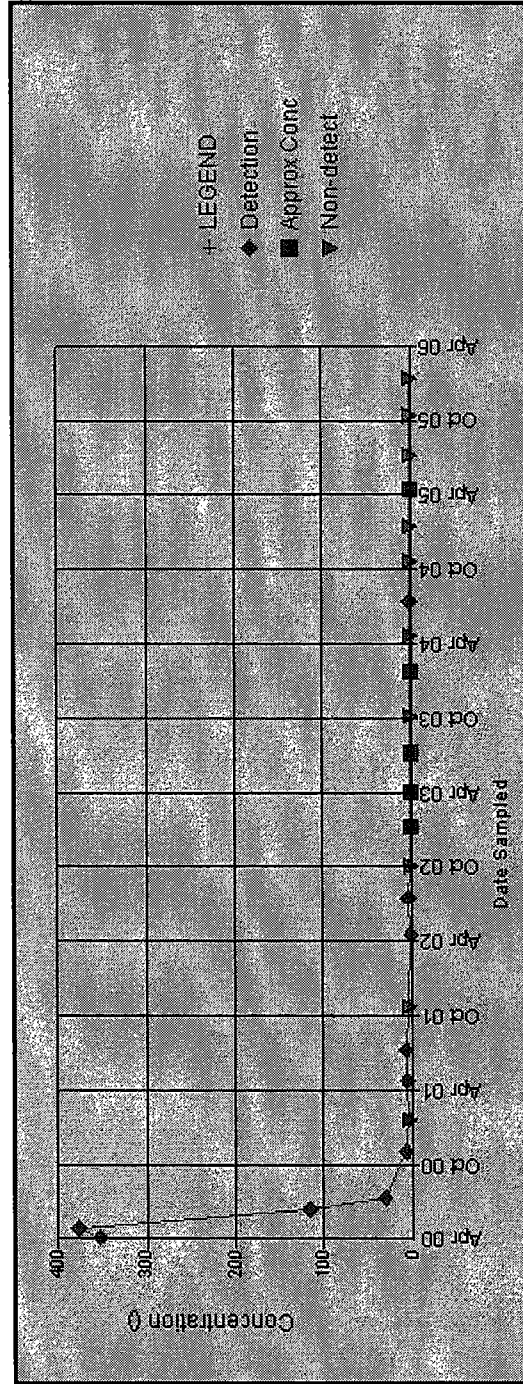
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-414D

Statistic	Value
Sample Count	25
Average	36.5
Standard Deviation	101.5
Coefficient of Variation	2.78
Mann-Kendall Positives/Negatives	26/237
Mann-Kendall S statistic	-211
Z Test Statistic	-5.034
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



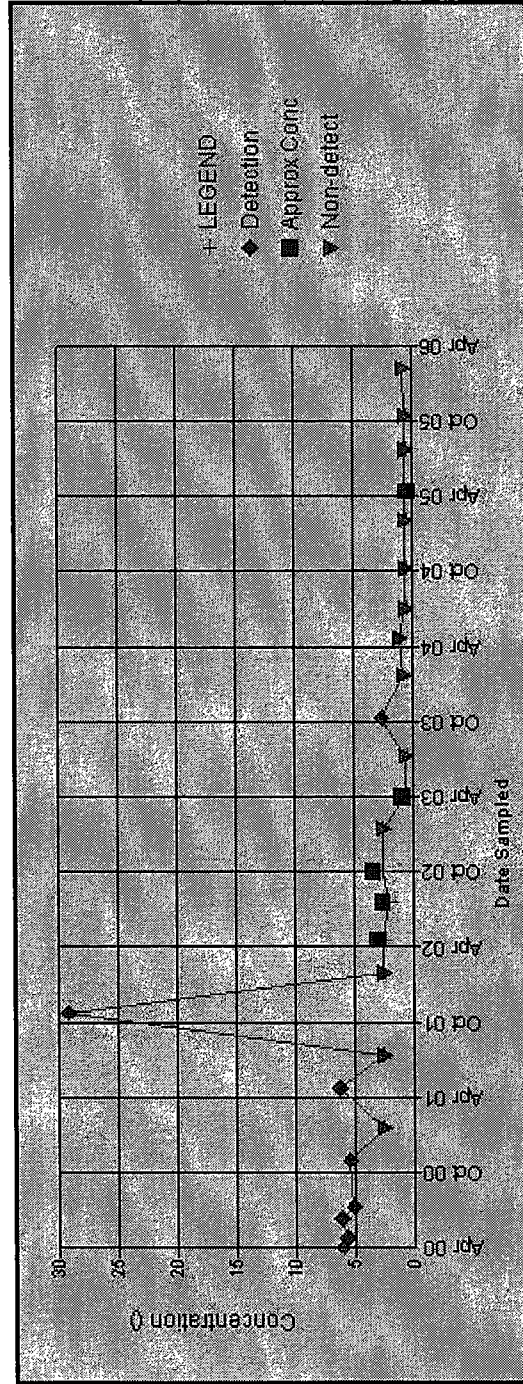
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-416D

Statistic	Value
Sample Count	26
Average	3.54
Standard Deviation	5.62
Coefficient of Variation	1.59
Mann-Kendall Positives/Negatives	47/255
Mann-Kendall S statistic	-208
Z Test Statistic	-4.606
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



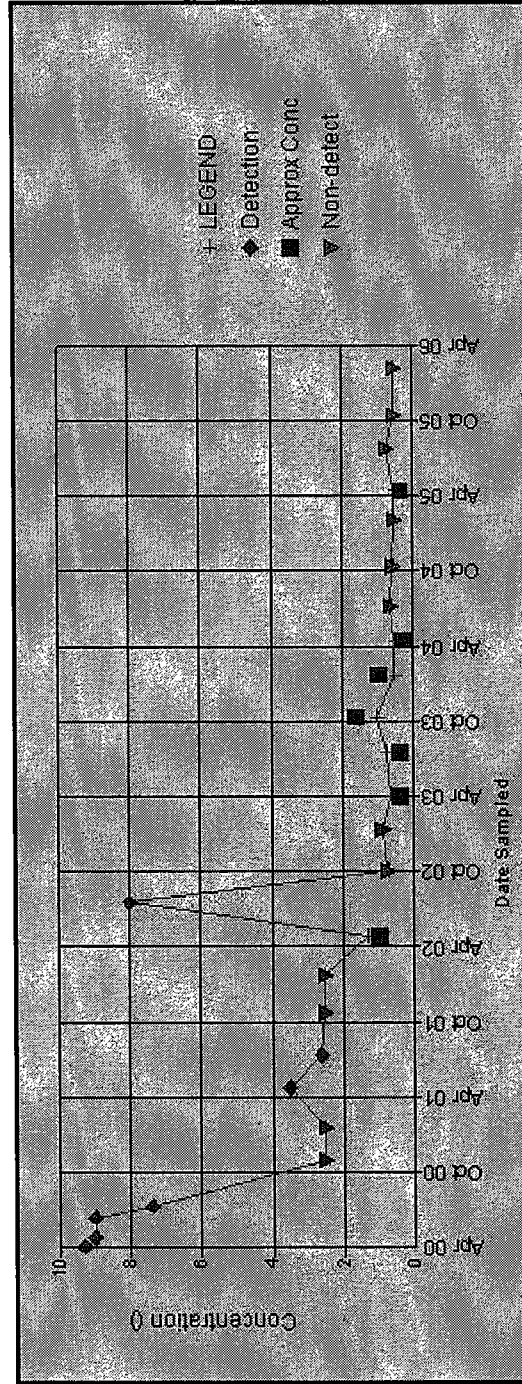
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-417D

Statistic	Value
Sample Count	26
Average	2.64
Standard Deviation	3.09
Coefficient of Variation	1.17
Mann-Kendall Positives/Negatives	48/265
Mann-Kendall S statistic	-217
Z Test Statistic	-4.779
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



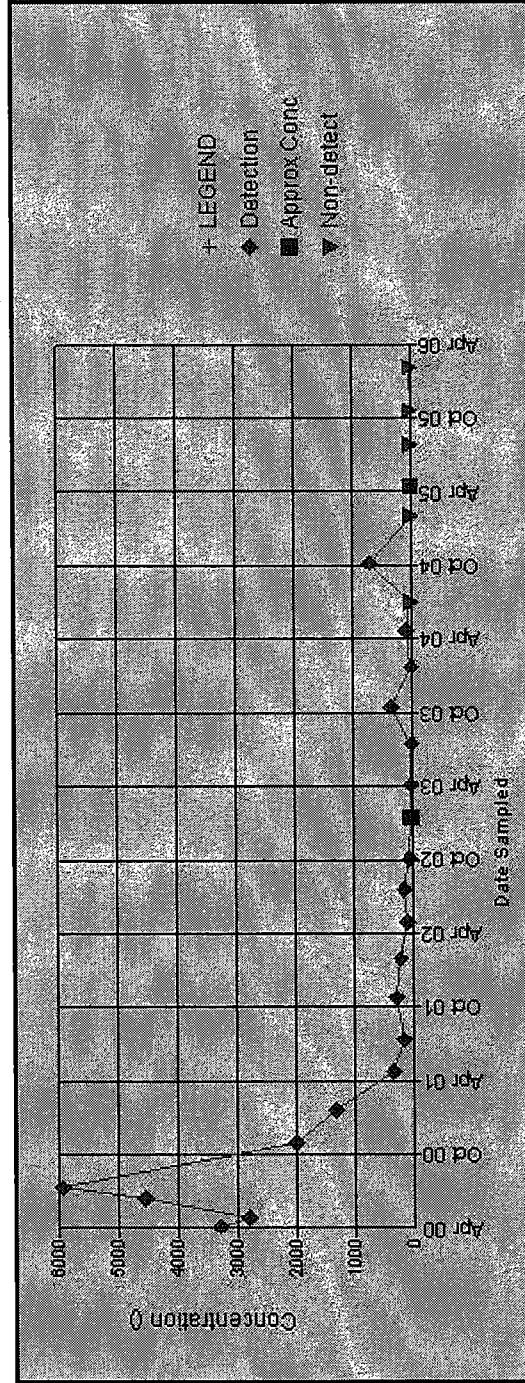
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-418D

Statistic	Value
Sample Count	27
Average	828.2
Standard Deviation	1,555.0
Coefficient of Variation	1.88
Mann-Kendall Positives/Negatives	48/303
Mann-Kendall S statistic	-255
Z Test Statistic	-5.295
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



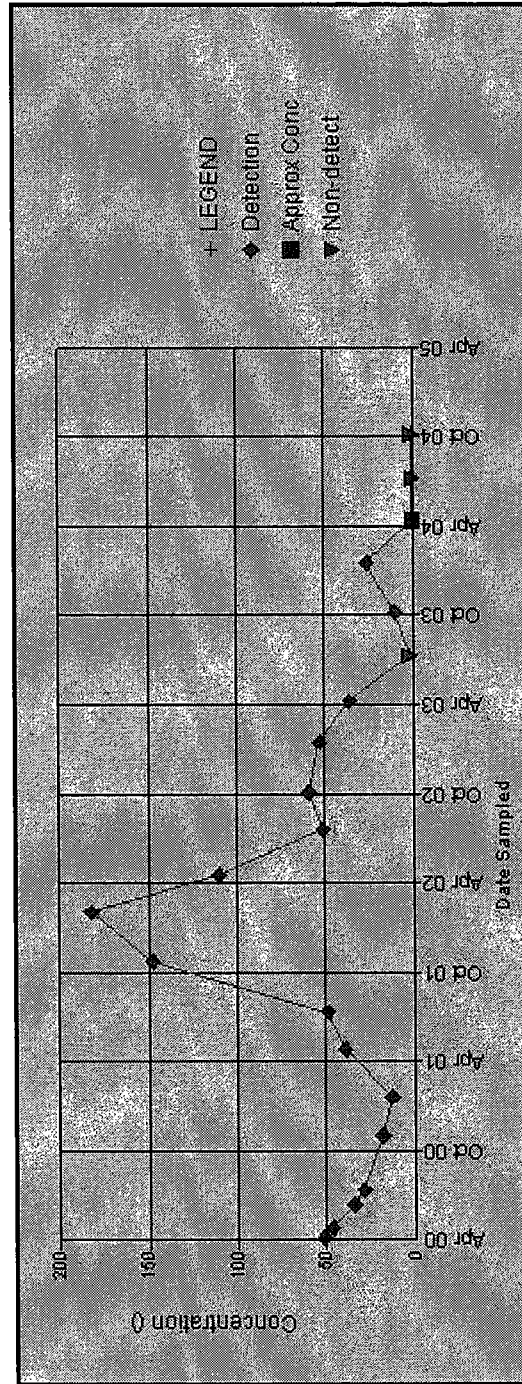
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes $<=40$.

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-419D

Statistic	Value
Sample Count	21
Average	45.6
Standard Deviation	47.8
Coefficient of Variation	1.05
Mann-Kendall Positives/Negatives	72/137
Mann-Kendall S statistic	-65
Z Test Statistic	-1.933
Significance Level	-94.7%
Trend (80% Significance Threshold)	Decrease



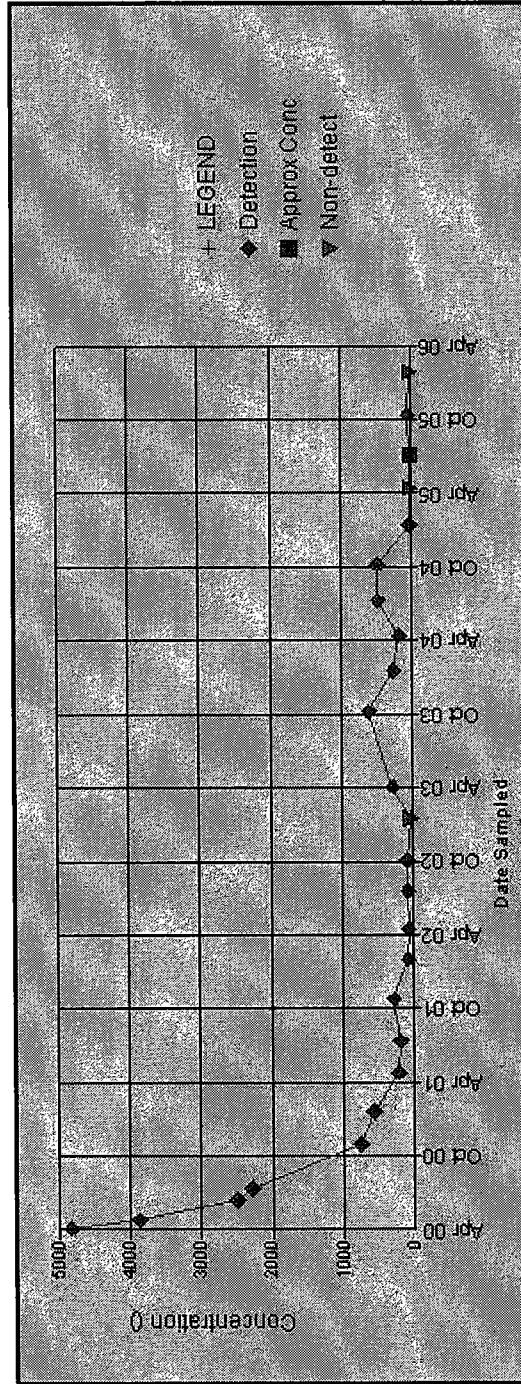
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-420D

Statistic	Value
Sample Count	25
Average	722.2
Standard Deviation	1,271.2
Coefficient of Variation	1.76
Mann-Kendall Positives/Negatives	65/235
Mann-Kendall S statistic	-170
Z Test Statistic	-3.947
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



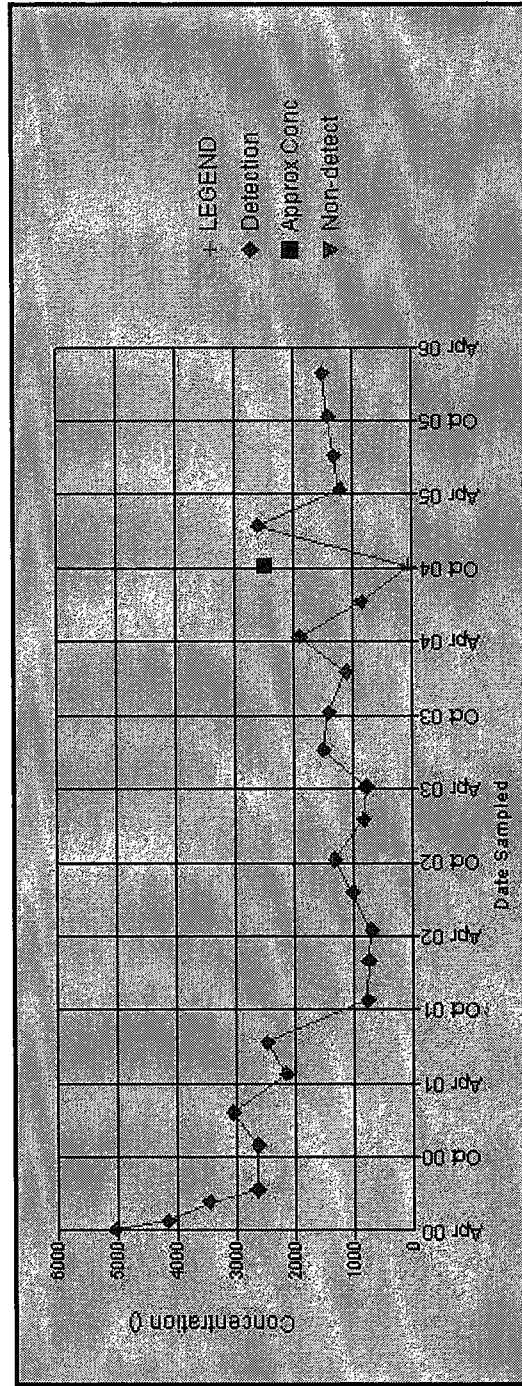
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes $<=40$.

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-420M

Statistic	Value
Sample Count	26
Average	1,880.0
Standard Deviation	1,136.1
Coefficient of Variation	0.604
Mann-Kendall Positives/Negatives	121/201
Mann-Kendall S statistic	-80
Z Test Statistic	-1.743
Significance Level	-91.9%
Trend (80% Significance Threshold)	Decrease

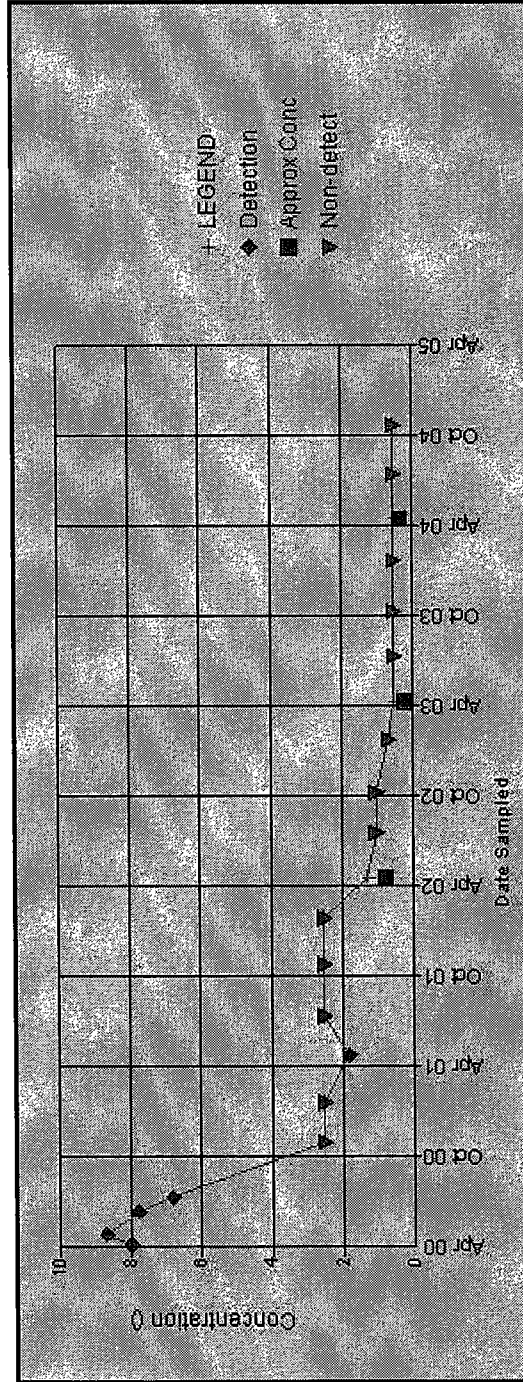


Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Gepde will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$
Mann-Kendall Trend for Trichloroethene in MW-421D

Statistic	Value
Sample Count	21
Average	2.48
Standard Deviation	2.80
Coefficient of Variation	1.13
Mann-Kendall Positives/Negatives	14/175
Mann-Kendall S statistic	-161
Z Test Statistic	-4.909
Significance Level	-100.0%
Trend (80% Significance Threshold) Decrease	

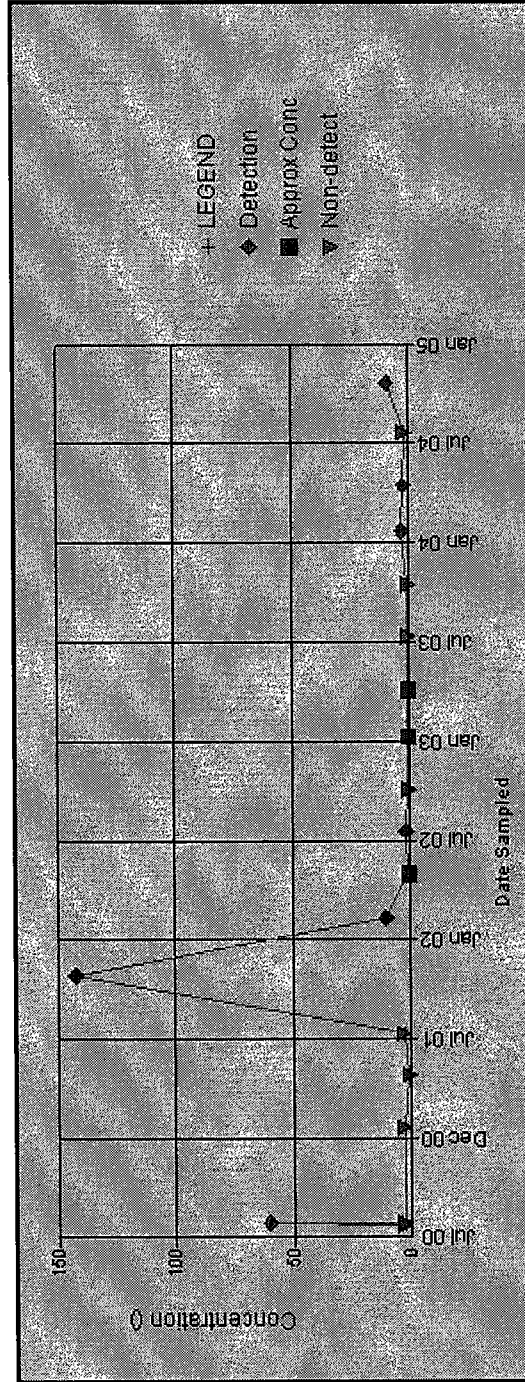


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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-422D

Statistic	Value
Sample Count	21
Average	11.8
Standard Deviation	32.7
Coefficient of Variation	2.77
Mann-Kendall Positives/Negatives	76/113
Mann-Kendall S statistic	-37
Z Test Statistic	-1.106
Significance Level	-73.1%
Trend (80% Significance Threshold)	No Trend



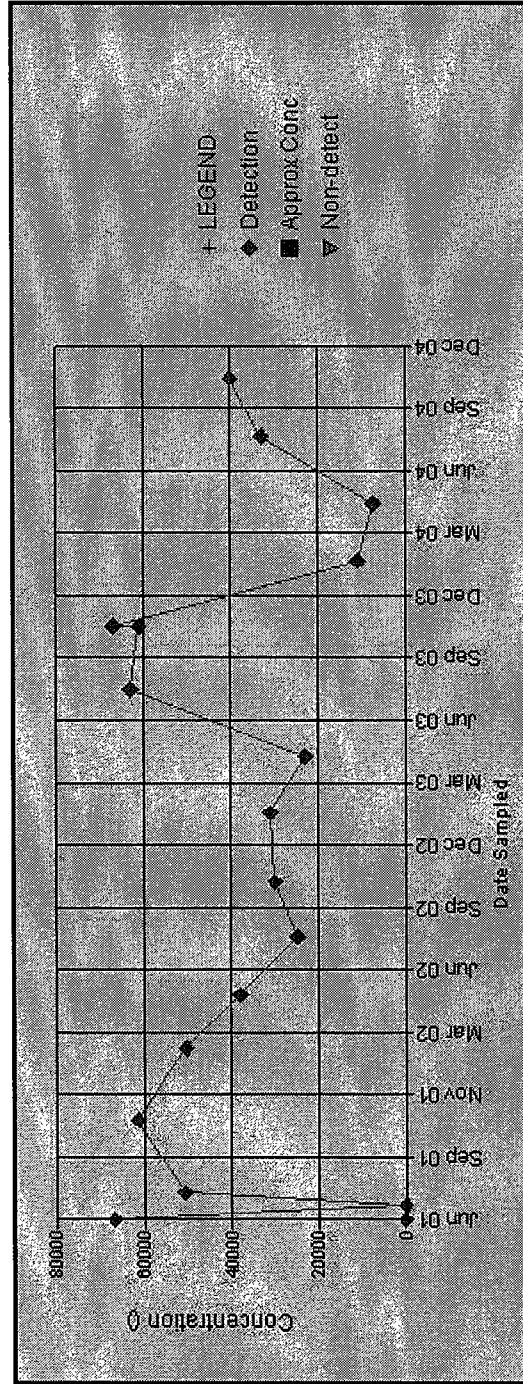
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-424D

Statistic	Value
Sample Count	18
Average	36,618.1
Standard Deviation	22,646.1
Coefficient of Variation	0.618
Mann-Kendall Positives/Negatives	75/78
Mann-Kendall S statistic	-3
Z Test Statistic	-0.07576
Significance Level	-6.0%
Trend (80% Significance Threshold)	No Trend



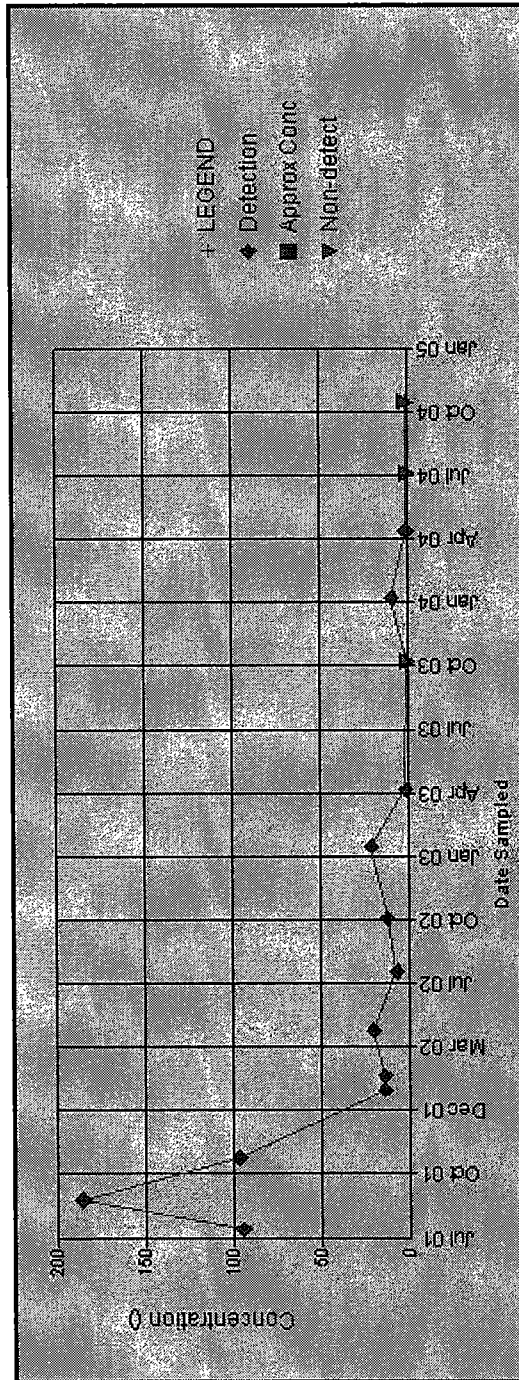
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in µg/L

Mann-Kendall Trend for Trichloroethene in MW-432D

Statistic	Value
Sample Count	15
Average	31.8
Standard Deviation	52.9
Coefficient of Variation	1.66
Mann-Kendall Positives/Negatives	17/88
Mann-Kendall S statistic	-71
Z Test Statistic	-3.464
Significance Level	-99.9%
Trend (80% Significance Threshold)	Decrease



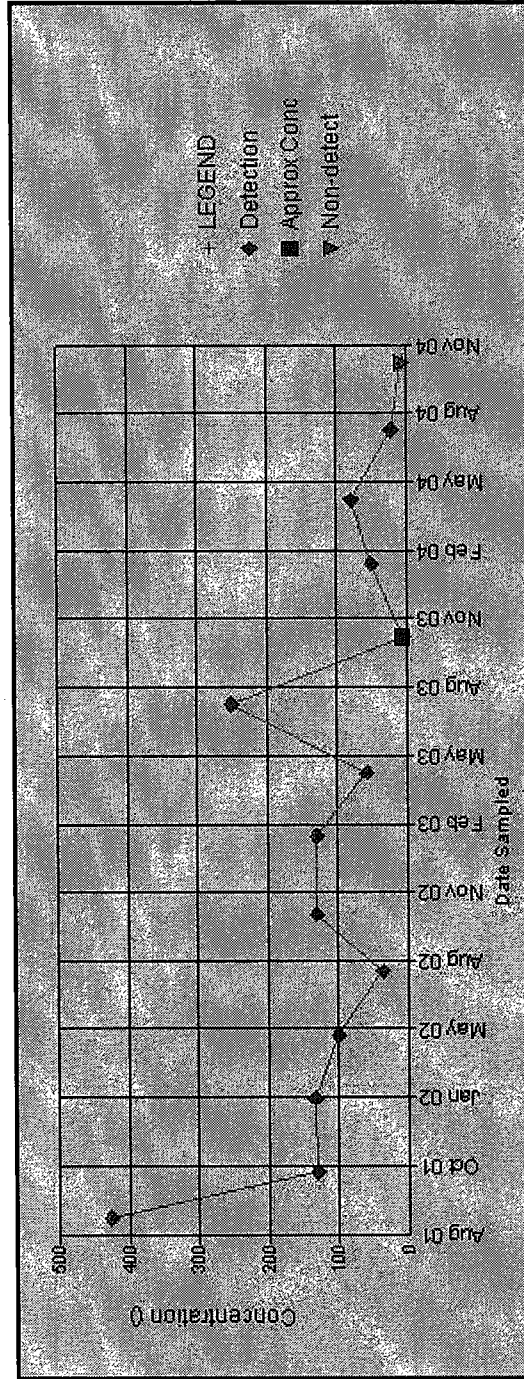
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-433D

Statistic	Value
Sample Count	14
Average	111.3
Standard Deviation	112.0
Coefficient of Variation	1.01
Mann-Kendall Positives/Negatives	20/68
Mann-Kendall S statistic	-48
Z Test Statistic	-2.587
Significance Level	-99.0%
Trend (80% Significance Threshold)	Decrease



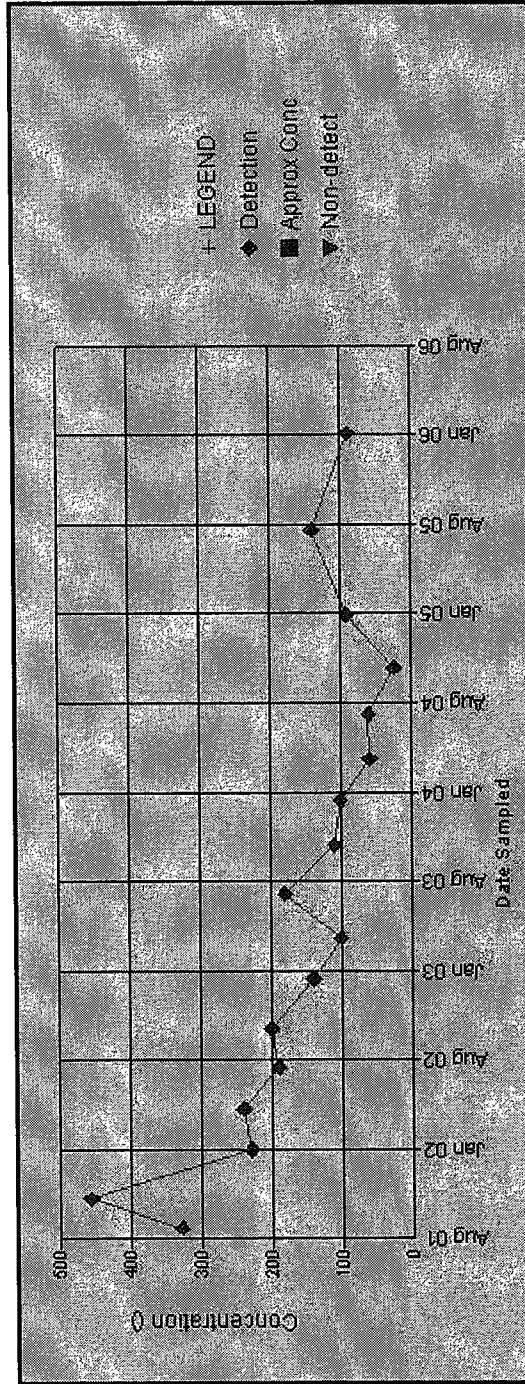
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-434D

Statistic	Value
Sample Count	17
Average	160.9
Standard Deviation	108.9
Coefficient of Variation	0.677
Mann-Kendall Positives/Negatives	20/114
Mann-Kendall S statistic	-94
Z Test Statistic	-3.837
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



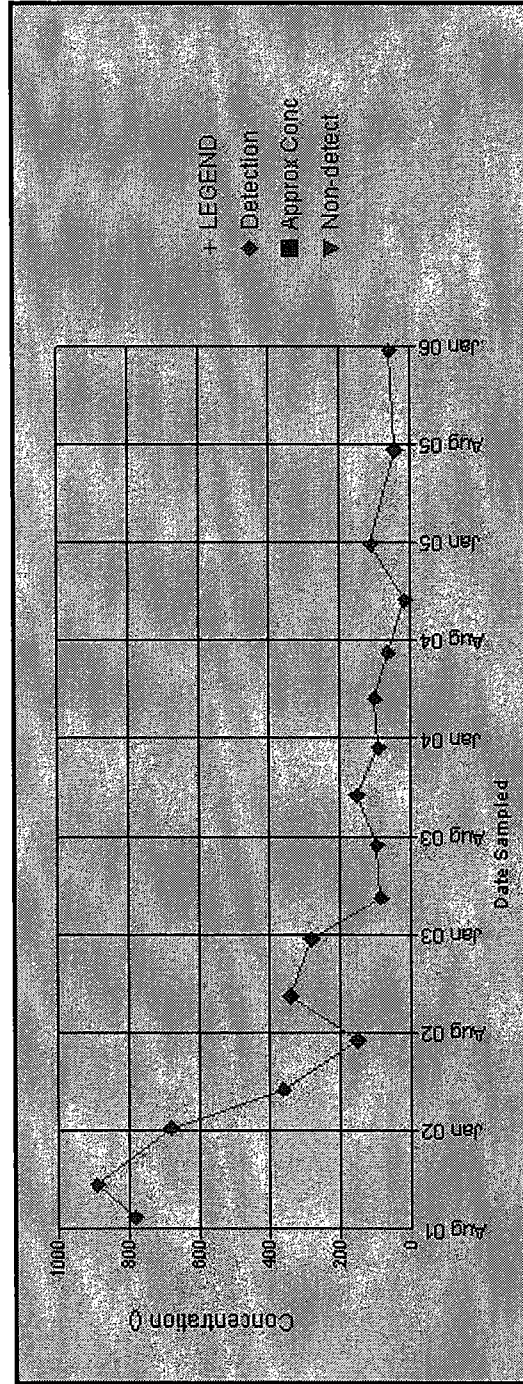
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-435D

Statistic	Value
Sample Count	17
Average	252.0
Standard Deviation	275.8
Coefficient of Variation	1.09
Mann-Kendall Positives/Negatives	19/116
Mann-Kendall S statistic	-97
Z Test Statistic	-3.958
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



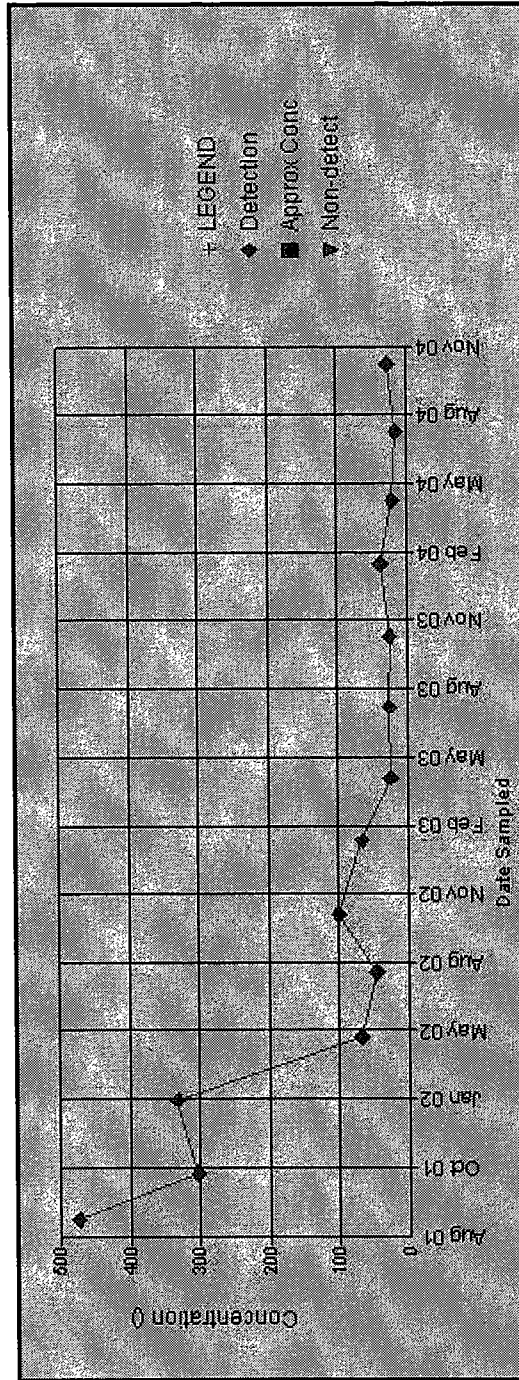
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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-436D

Statistic	Value
Sample Count	14
Average	111.8
Standard Deviation	146.1
Coefficient of Variation	1.31
Mann-Kendall Positives/Negatives	14/77
Mann-Kendall S statistic	-63
Z Test Statistic	-3.394
Significance Level	-99.9%
Trend (80% Significance Threshold)	Decrease



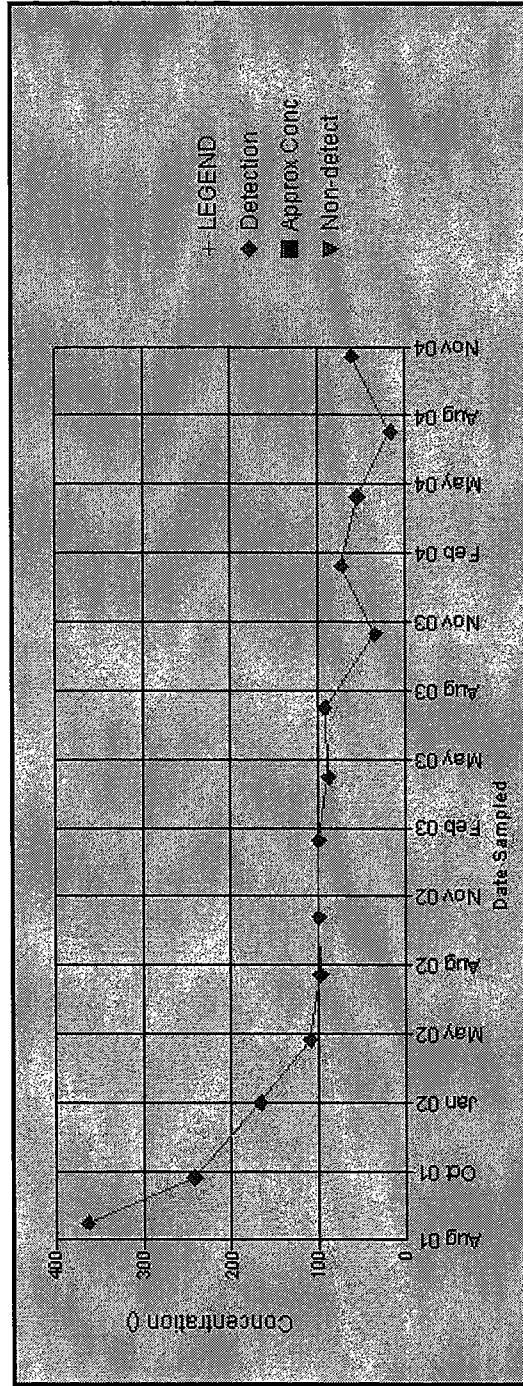
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-437D

Statistic	Value
Sample Count	14
Average	114.3
Standard Deviation	91.1
Coefficient of Variation	0.797
Mann-Kendall Positives/Negatives	8/82
Mann-Kendall S statistic	-74
Z Test Statistic	-4.002
Significance Level	-100.0%
Trend (80% Significance Threshold)	Decrease



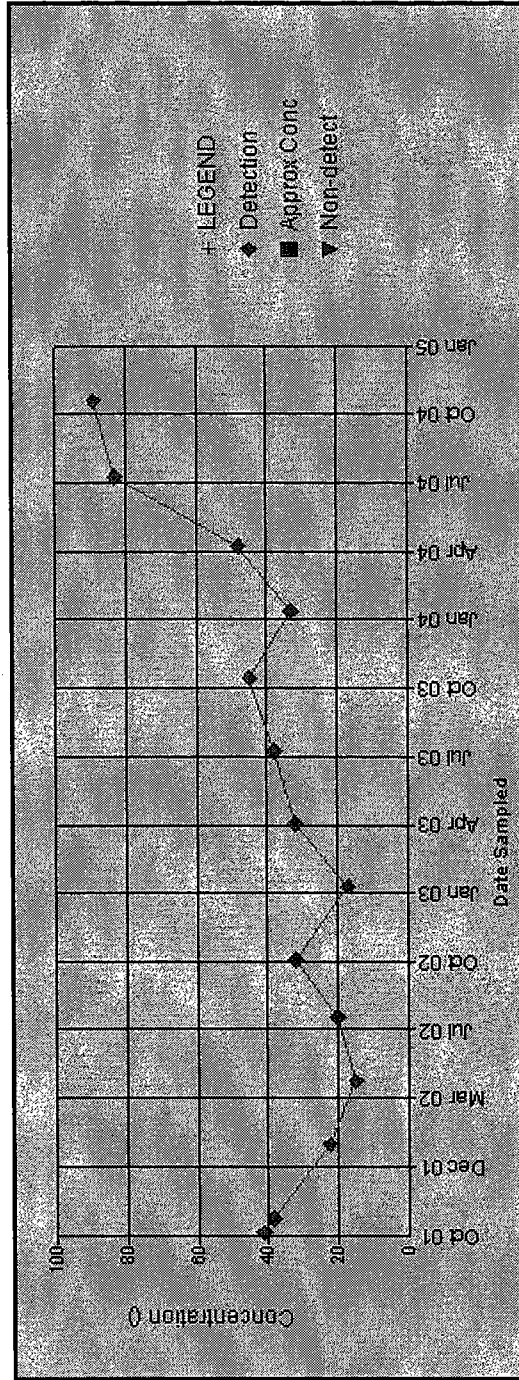
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

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Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-438D

Statistic	Value
Sample Count	14
Average	39.6
Standard Deviation	22.2
Coefficient of Variation	0.560
Mann-Kendall Positives/Negatives	66/24
Mann-Kendall S statistic	42
Z Test Statistic	2.25
Significance Level	97.5%
Trend (80% Significance Threshold)	Increase



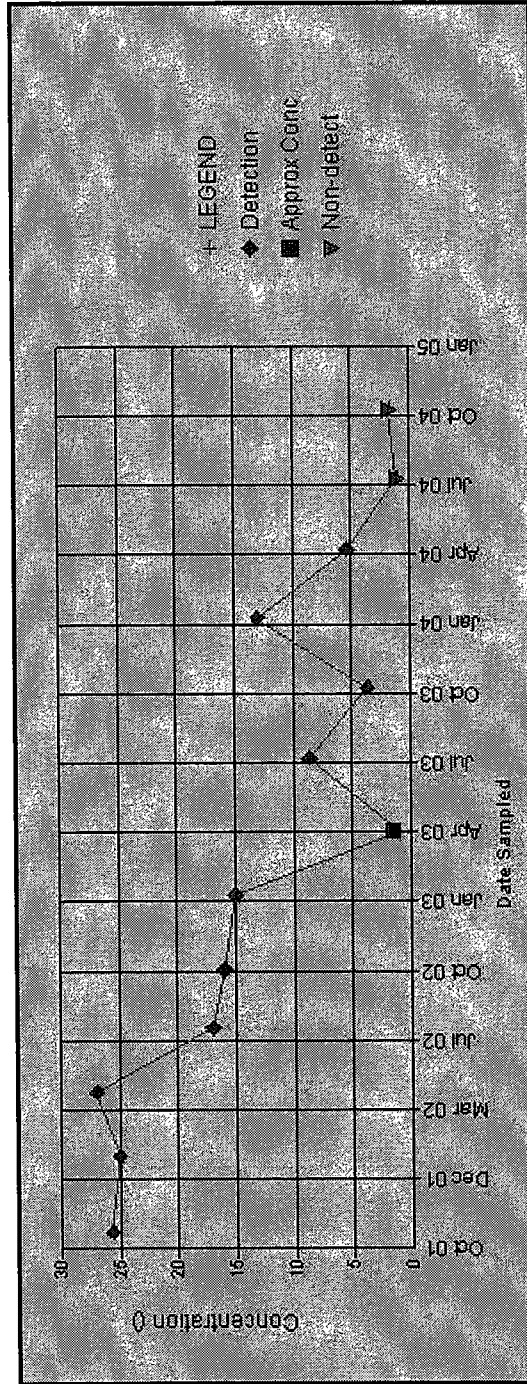
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-440D

Statistic	Value
Sample Count	13
Average	12.3
Standard Deviation	9.55
Coefficient of Variation	0.774
Mann-Kendall Positives/Negatives	11/67
Mann-Kendall S statistic	-56
Z Test Statistic	-3.355
Significance Level	-99.9%
Trend (80% Significance Threshold)	Decrease



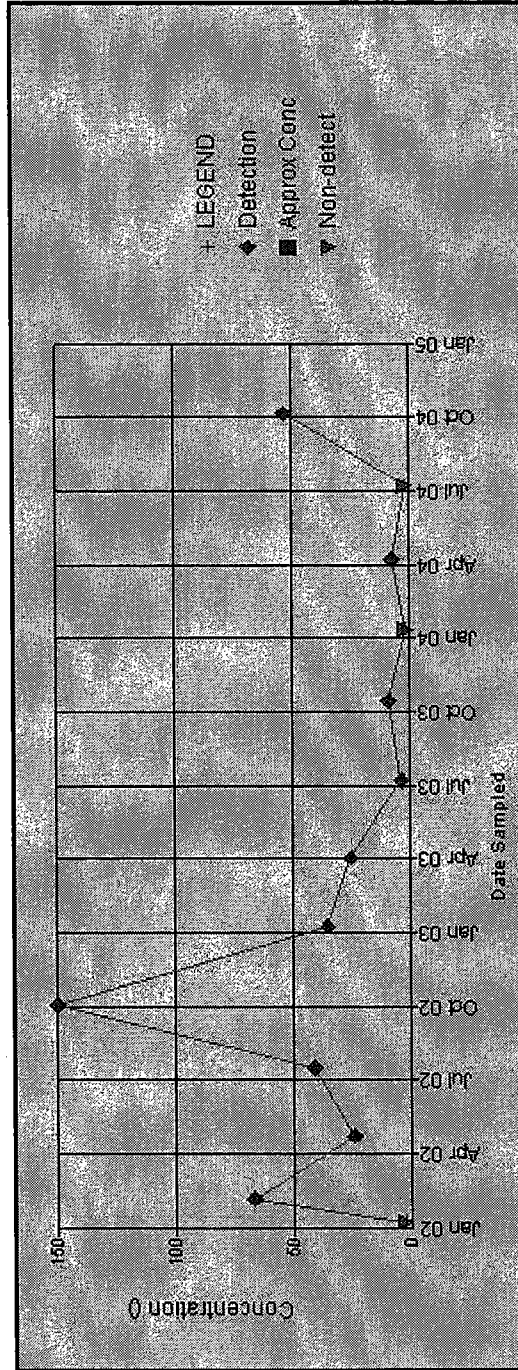
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-441D

Statistic	Value
Sample Count	13
Average	32.3
Standard Deviation	41.3
Coefficient of Variation	1.28
Mann-Kendall Positives/Negatives	29/49
Mann-Kendall S statistic	-20
Z Test Statistic	-1.159
Significance Level	-75.4%
Trend (80% Significance Threshold)	No Trend



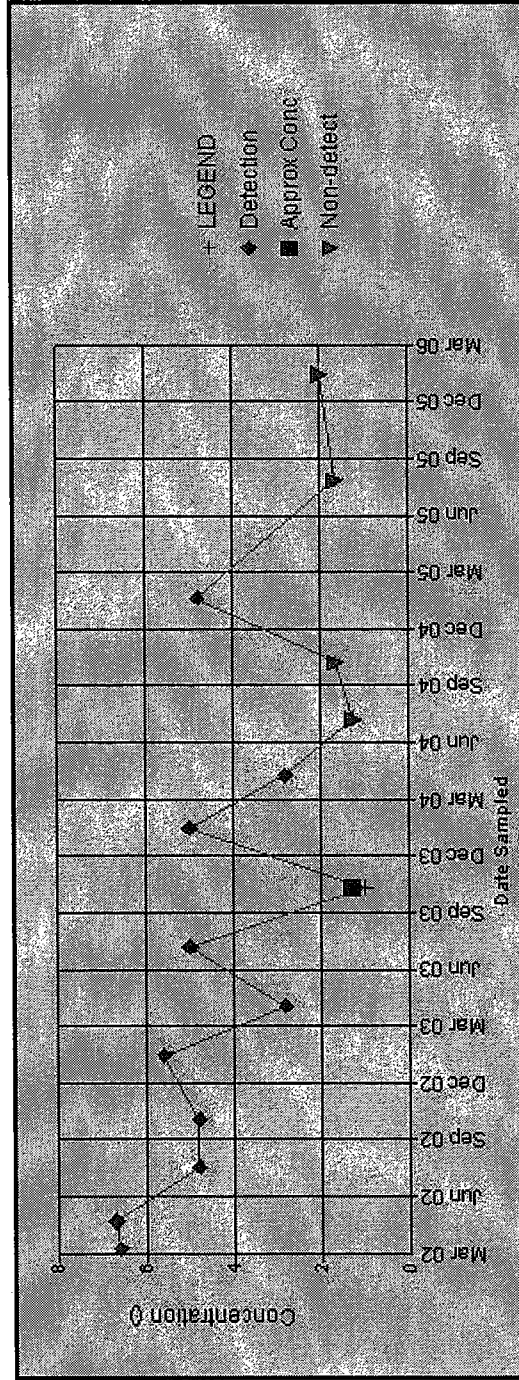
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-444D

Statistic	Value
Sample Count	15
Average	3.78
Standard Deviation	1.94
Coefficient of Variation	0.512
Mann-Kendall Positives/Negatives	24/75
Mann-Kendall S statistic	-51
Z Test Statistic	-2.495
Significance Level	-98.7%
Trend (80% Significance Threshold)	Decrease



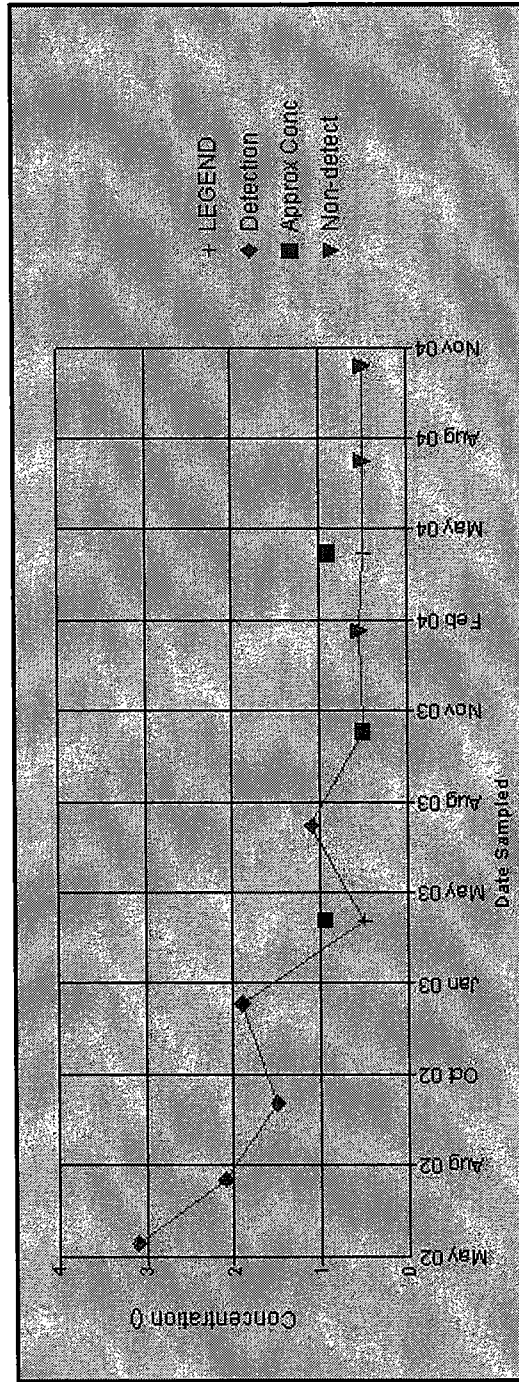
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-448D

Statistic	Value
Sample Count	11
Average	1.24
Standard Deviation	0.838
Coefficient of Variation	0.677
Mann-Kendall Positives/Negatives	5/49
Mann-Kendall S statistic	-44
Z Test Statistic	-3.358
Significance Level	-99.9%
Trend (80% Significance Threshold)	Decrease



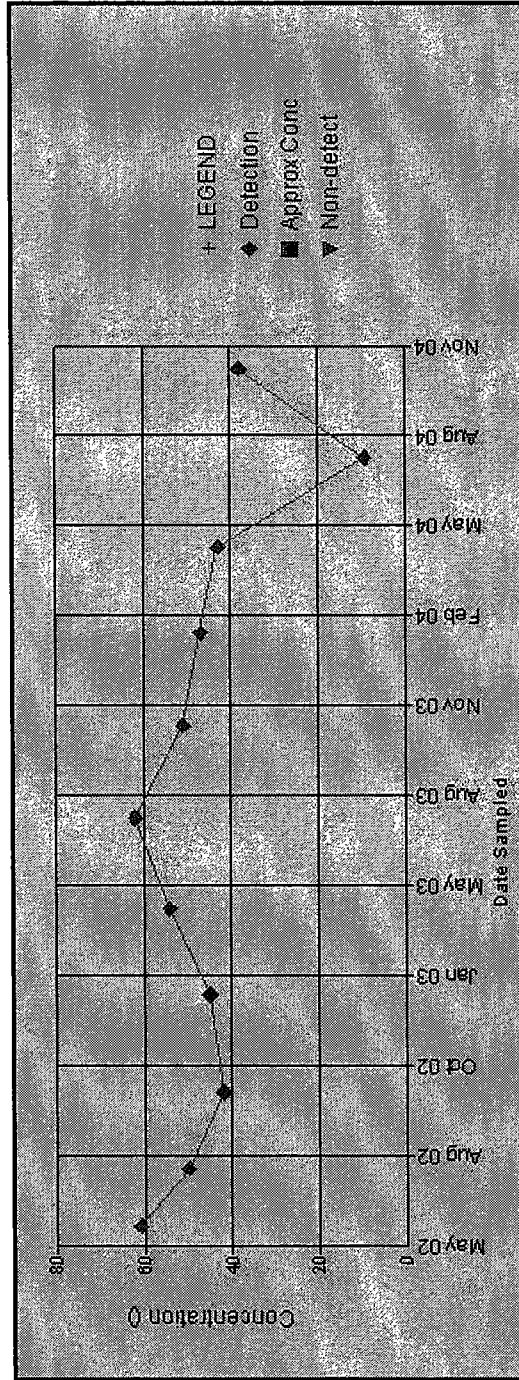
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 - Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-449D

Statistic	Value
Sample Count	11
Average	45.7
Standard Deviation	14.2
Coefficient of Variation	0.311
Mann-Kendall Positives/Negatives	16/39
Mann-Kendall S statistic	-23
Z Test Statistic	-1.713
Significance Level	-91.3%
Trend (80% Significance Threshold)	Decrease



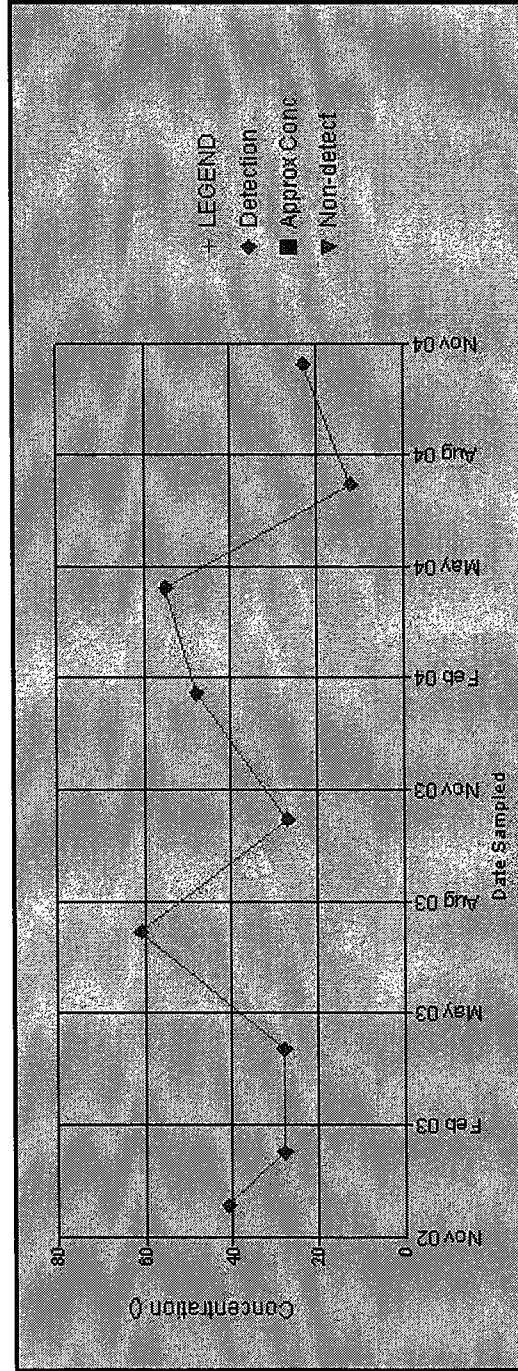
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in µg/L

Mann-Kendall Trend for Trichloroethene in MW-451D

Statistic	Value
Sample Count	9
Average	35.9
Standard Deviation	16.2
Coefficient of Variation	0.452
Mann-Kendall Positives/Negatives	13/22
Mann-Kendall S statistic	-9
Z Test Statistic	-0.8386
Significance Level	-59.8%
Trend (80% Significance Threshold)	No Trend



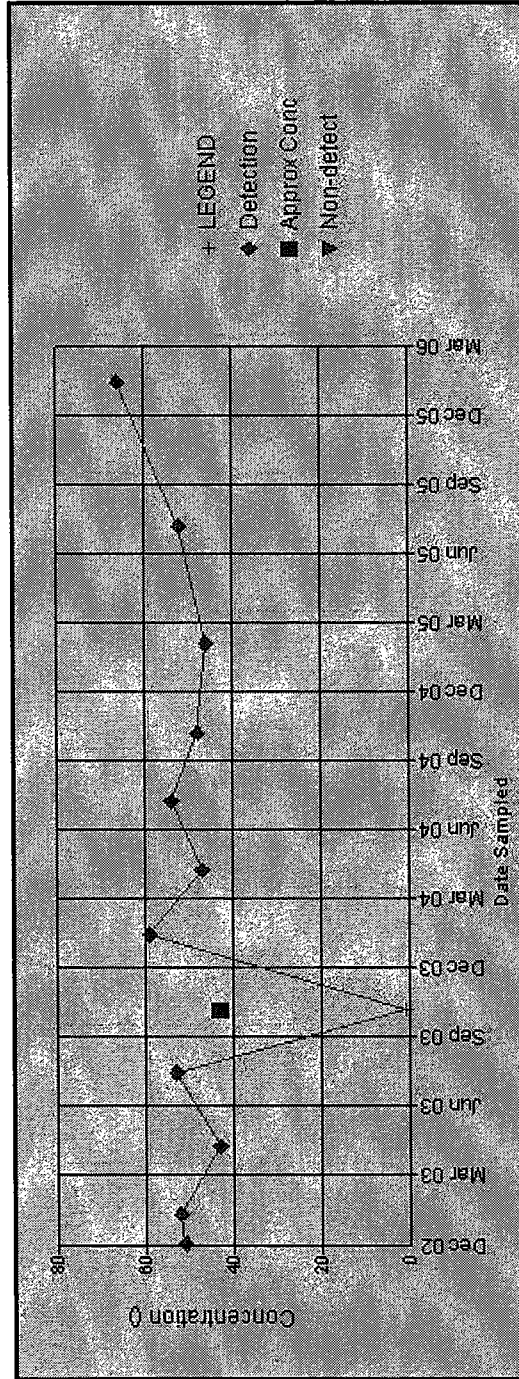
Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes <=40.

Delphi Corporation
Vandalia Facility
Vandalia, OH

Trend Since Deep Bedrock Groundwater Migration Control Start in April 2000 – Concentration in $\mu\text{g/L}$

Mann-Kendall Trend for Trichloroethene in MW-453D

Statistic	Value
Sample Count	12
Average	51.2
Standard Deviation	6.62
Coefficient of Variation	0.129
Mann-Kendall Positives/Negatives	39/25
Mann-Kendall S statistic	14
Z Test Statistic	0.896
Significance Level	62.9%
Trend (80% Significance Threshold)	No Trend



Note: The Mann-Kendall method is for sample counts greater than 40 as described in *Statistical Methods for Environmental Pollution Monitoring* (Gilbert, 1987). For sample counts less than or equal to 40, a lookup table of the Mann Kendall S statistic and the sample count should be used. However, Kendall (1975) indicates that the >40 method may be used for sample counts as low as 10 unless there are many identical values. A future version of Geode will include the lookup table for sample sizes ≤ 40 .

APPENDIX B

Sugar Rock Monitoring Well TCE Normality Analysis

STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH

LOCATION: CSX-18D

COMPOUND: Trichloroethene

COMMENT:

Order	Sample Concentration
1	0.05
2	0.11
3	0.11
4	0.11
5	0.11
6	0.11
7	0.11
8	0.11
9	0.14
10	0.27
11	0.28
12	0.5
13	0.56
14	0.78
15	0.78
16	2.50
17	2.50
18	2.50
19	2.50
20	2.50
21	2.50
22	2.50
23	39.90
24	
25	
26	
27	
28	
29	
30	

Probability	Quartile
4.2	-1.73
8.3	-1.38
12.5	-1.15
16.7	-0.97
20.8	-0.81
25.0	-0.67
29.2	-0.55
33.3	-0.43
37.5	-0.32
41.7	-0.21
45.8	-0.10
50.0	0.00
54.2	0.10
58.3	0.21
62.5	0.32
66.7	0.43
70.8	0.55
75.0	0.67
79.2	0.81
83.3	0.97
87.5	1.15
91.7	1.38
95.8	1.73

Residual	Coefficient (a)	Product (b)
39.85	0.4542	18.10
2.39	0.3126	0.75
2.39	0.2563	0.61
2.39	0.2139	0.51
2.39	0.1787	0.43
2.39	0.1480	0.35
2.39	0.1201	0.29
2.39	0.0941	0.22
0.64	0.0696	0.04
0.51	0.0459	0.02
0.28	0.0228	0.01
	0.0000	
	0.0000	
	0.0000	
	0.0000	

Shapiro-Wilk Sum: 21.338

Shapiro-Wilk W: 0.309

Critical Value: 5%

Shapiro-Wilk Comparison W: 0.9140

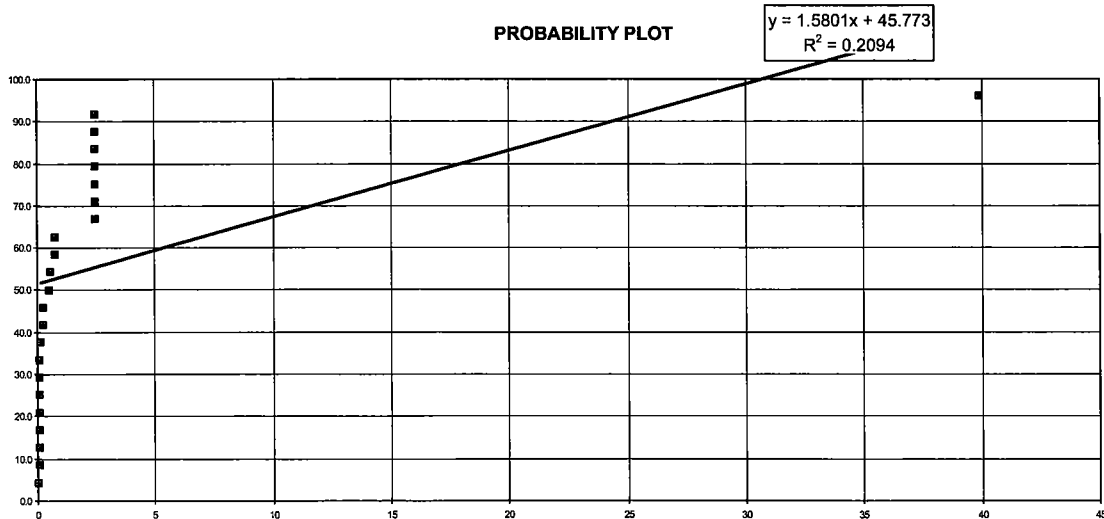
Normality?: Does Not Appear Normally Distributed

Number of Samples: 23
Sample Mean: 2.675
Sample Standard Deviation: 8.183

25% Quartile: 0.1
50% Quartile(median): 0.5
75% Quartile: 2.5
Inter-Quartile Range: 2.4
Upper Cutoff: 6.1

Required Level of Confidence: 95%
Upper Confidence Limit: 5.61
Upper Tolerance Limit: 17.0

PROBABILITY PLOT



■ Sample Data Linear (Sample Data)

STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH

LOCATION: CSX-18D

COMPOUND: Trichloroethene

COMMENT:

Order	Sample Log Conc.
1	-1.30
2	-0.96
3	-0.96
4	-0.96
5	-0.96
6	-0.96
7	-0.96
8	-0.96
9	-0.85
10	-0.57
11	-0.55
12	-0.30
13	-0.25
14	-0.11
15	-0.11
16	0.40
17	0.40
18	0.40
19	0.40
20	0.40
21	0.40
22	0.40
23	1.60
24	
25	
26	
27	
28	
29	
30	

Normal Distribution Probability	Quartile
4.2	-1.73
8.3	-1.38
12.5	-1.15
16.7	-0.97
20.8	-0.81
25.0	-0.67
29.2	-0.55
33.3	-0.43
37.5	-0.32
41.7	-0.21
45.8	-0.10
50.0	0.00
54.2	0.10
58.3	0.21
62.5	0.32
66.7	0.43
70.8	0.55
75.0	0.67
79.2	0.81
83.3	0.97
87.5	1.15
91.7	1.38
95.8	1.73

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
2.90	0.4542	1.32
1.36	0.3126	0.42
1.36	0.2563	0.35
1.36	0.2139	0.29
1.36	0.1787	0.24
1.36	0.1480	0.20
1.36	0.1201	0.16
1.36	0.0941	0.13
0.75	0.0696	0.05
0.46	0.0459	0.02
0.30	0.0228	0.01
	0.0000	
	0.0000	
	0.00	

Shapiro-Wilk Sum: 3.194

Shapiro-Wilk W: 0.882

Critical Value: 5.0%

Shapiro-Wilk Comparison W: 0.9140

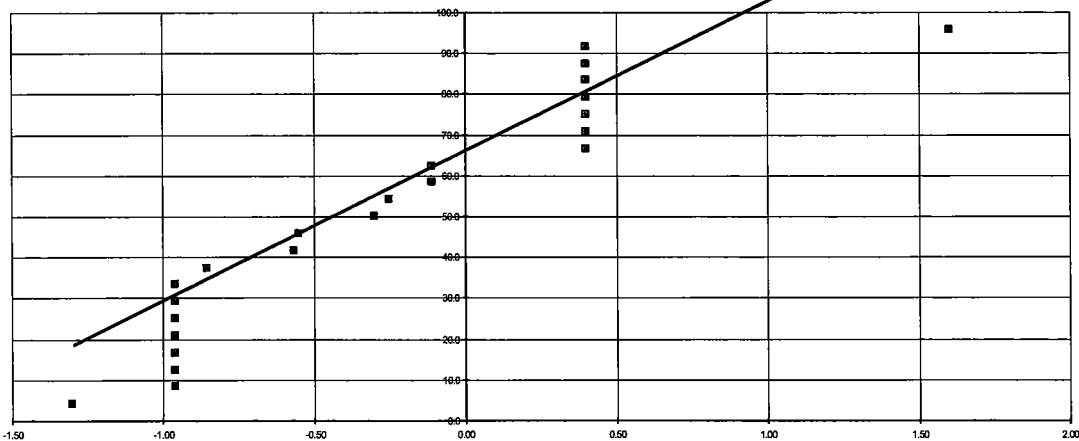
Normality?: Does Not Appear LogNormally Distributed

log()
Number of Samples: 23
Sample Mean: -0.277
Sample Standard Deviation: 0.725

25% Quartile: 0.1
50% Quartile(median): 0.5
75% Quartile: 2.5
Inter-Quartile Range: 2.39
Upper Cutoff: 6.09

log() Natural Scale
Required Level of Confidence: 95%
Upper Confidence Limit: -0.02
Upper Tolerance Limit: 1.00 9.9

PROBABILITY PLOT



STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-301D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Concentration
1	0.22
2	2.00
3	2.30
4	2.50
5	5.00
6	6.90
7	23.00
8	29.00
9	110.00
10	350.00
11	390.00
12	440.00
13	490.00
14	550.00
15	680.00
16	920.00
17	1520.00
18	1900.00
19	2300.00
20	2400.00
21	2880.00
22	2910.00
23	2940.00
24	3080.00
25	4060.00
26	4930.00
27	5460.00
28	8240.00
29	
30	

Probability	Quartile
3.4	-1.82
6.9	-1.48
10.3	-1.26
13.8	-1.09
17.2	-0.94
20.7	-0.82
24.1	-0.70
27.6	-0.60
31.0	-0.49
34.5	-0.40
37.9	-0.31
41.4	-0.22
44.8	-0.13
48.3	-0.04
51.7	0.04
55.2	0.13
58.6	0.22
62.1	0.31
65.5	0.40
69.0	0.49
72.4	0.60
75.9	0.70
79.3	0.82
82.8	0.94
86.2	1.09
89.7	1.26
93.1	1.48
96.6	1.82

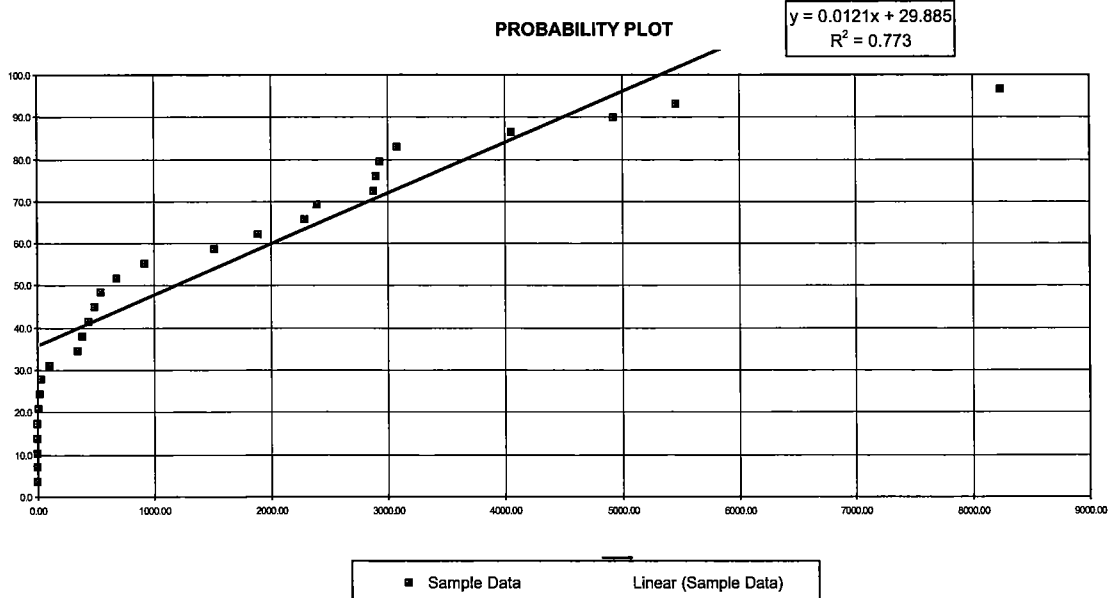
Residual	Coefficient (a)	Product (b)
8239.78	0.4328	3566.18
5458.00	0.2992	1633.03
4927.70	0.2510	1236.85
4057.50	0.2151	872.77
3075.00	0.1857	571.03
2933.10	0.1601	469.59
2887.00	0.1372	396.10
2851.00	0.1162	331.29
2290.00	0.0965	220.99
1950.00	0.0778	151.71
1510.00	0.0598	90.30
1080.00	0.0424	45.79
430.00	0.0253	10.88
130.00	0.0084	1.09
	0.0000	

Shapiro-Wilk Sum:	9597.587
Shapiro-Wilk W:	0.801
Critical Value:	5%
Shapiro-Wilk Comparison W:	0.9240
Normality?:	Does Not Appear Normally Distributed

Number of Samples:	28
Sample Mean:	1665.033
Sample Standard Deviation:	2064.411

25% Quartile:	27.5
50% Quartile (median):	615.0
75% Quartile:	2887.5
Inter-Quartile Range:	2860.0
Upper Cutoff:	7177.5

Required Level of Confidence:	95%
Upper Confidence Limit:	2329.55
Upper Tolerance Limit:	5243.6



STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-301D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Log Conc.
1	-0.66
2	0.30
3	0.36
4	0.40
5	0.70
6	0.84
7	1.36
8	1.46
9	2.04
10	2.54
11	2.59
12	2.64
13	2.69
14	2.74
15	2.83
16	2.96
17	3.18
18	3.28
19	3.36
20	3.38
21	3.46
22	3.46
23	3.47
24	3.49
25	3.61
26	3.69
27	3.74
28	3.92
29	
30	

Probability	Quartile
3.4	-1.82
6.9	-1.48
10.3	-1.26
13.8	-1.09
17.2	-0.94
20.7	-0.82
24.1	-0.70
27.6	-0.60
31.0	-0.49
34.5	-0.40
37.9	-0.31
41.4	-0.22
44.8	-0.13
48.3	-0.04
51.7	0.04
55.2	0.13
58.6	0.22
62.1	0.31
65.5	0.40
69.0	0.49
72.4	0.60
75.9	0.70
79.3	0.82
82.8	0.94
86.2	1.09
89.7	1.26
93.1	1.48
96.6	1.82

Residual	Coefficient (a)	Product (b)
4.57	0.4328	1.98
3.44	0.2992	1.03
3.33	0.2510	0.84
3.21	0.2151	0.69
2.79	0.1857	0.52
2.63	0.1601	0.42
2.10	0.1372	0.29
2.00	0.1162	0.23
1.34	0.0965	0.13
0.82	0.0778	0.06
0.69	0.0598	0.04
0.54	0.0424	0.02
0.27	0.0253	0.01
0.09	0.0084	0.00
	0.00	

Shapiro-Wilk Sum:	6.258
Shapiro-Wilk W:	0.866
Critical Value:	5.0%
Shapiro-Wilk Comparison W:	0.9240

Normality?: Does Not Appear LogNormally Distributed

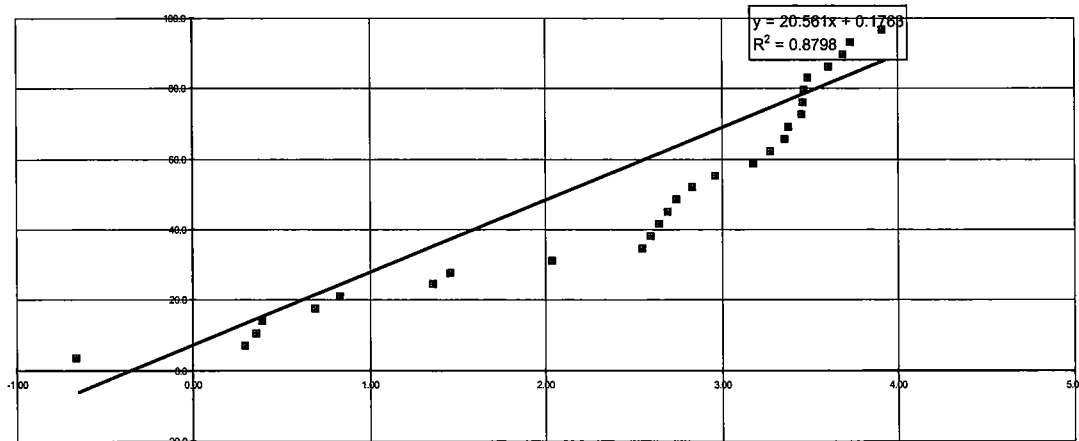
Number of Samples:	28
Sample Mean:	2.423
Sample Standard Deviation:	1.294

25% Quartile:	27.5
50% Quartile (median):	615.0
75% Quartile:	2887.5
Inter-Quartile Range:	2860.00
Upper Cutoff:	7177.50

Required Level of Confidence:	95%
Upper Confidence Limit:	2.84
Upper Tolerance Limit:	4.67

log() Natural Scale

PROBABILITY PLOT



■ Sample Data

— Linear (Sample Data)

STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-407D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Concentration
1	125
2	190
3	197
4	200
5	210
6	216
7	220
8	223
9	228
10	240
11	250
12	262
13	280
14	280
15	288
16	334
17	350
18	350.00
19	364.00
20	370.00
21	390.00
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
4.5	-1.69
9.1	-1.34
13.6	-1.10
18.2	-0.91
22.7	-0.75
27.3	-0.60
31.8	-0.47
36.4	-0.35
40.9	-0.23
45.5	-0.11
50.0	0.00
54.5	0.11
59.1	0.23
63.6	0.35
68.2	0.47
72.7	0.60
77.3	0.75
81.8	0.91
86.4	1.10
90.9	1.34
95.5	1.69

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
265.00	0.4643	123.04
180.00	0.3185	57.33
167.00	0.2578	43.05
150.00	0.2119	31.79
140.00	0.1736	24.30
118.00	0.1399	16.51
68.00	0.1092	7.43
57.00	0.0804	4.58
52.00	0.0530	2.76
22.00	0.0263	0.58
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	

Shapiro-Wilk Sum:	311.362
Shapiro-Wilk W:	0.949
Critical Value:	5%
Shapiro-Wilk Comparison W:	0.9080

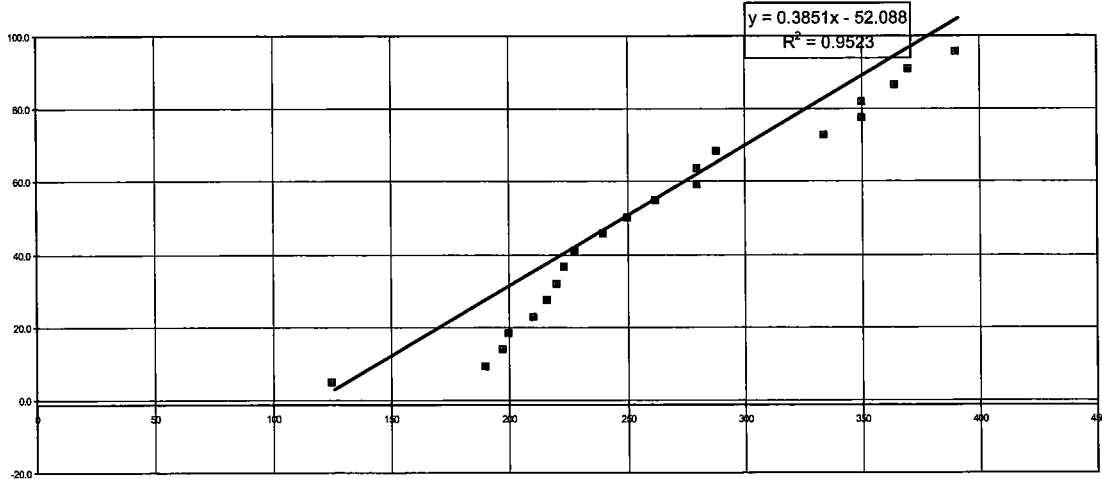
Normality?: Appears Normally Distributed

Number of Samples:	21
Sample Mean:	265.095
Sample Standard Deviation:	71.470

25% Quartile:	216.0
50% Quartile (median):	250.0
75% Quartile:	334.0
Inter-Quartile Range:	118.0
Upper Cutoff:	511.0

Required Level of Confidence:	95%
Upper Confidence Limit:	291.99
Upper Tolerance Limit:	391.3

PROBABILITY PLOT



■ Sample Data

— Linear (Sample Data)

STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-407D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Log Conc.
1	2.10
2	2.28
3	2.29
4	2.30
5	2.32
6	2.33
7	2.34
8	2.35
9	2.36
10	2.38
11	2.40
12	2.42
13	2.45
14	2.45
15	2.46
16	2.52
17	2.54
18	2.54
19	2.56
20	2.57
21	2.59
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
4.5	-1.69
9.1	-1.34
13.6	-1.10
18.2	-0.91
22.7	-0.75
27.3	-0.60
31.8	-0.47
36.4	-0.35
40.9	-0.23
45.5	-0.11
50.0	0.00
54.5	0.11
59.1	0.23
63.6	0.35
68.2	0.47
72.7	0.60
77.3	0.75
81.8	0.91
86.4	1.10
90.9	1.34
95.5	1.69

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
0.49	0.4643	0.23
0.29	0.3185	0.09
0.27	0.2578	0.07
0.24	0.2119	0.05
0.22	0.1736	0.04
0.19	0.1399	0.03
0.12	0.1092	0.01
0.10	0.0804	0.01
0.09	0.0530	0.00
0.04	0.0263	0.00
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.00	

Shapiro-Wilk Sum: 0.533
Shapiro-Wilk W: 0.946
Critical Value: 5.0%
Shapiro-Wilk Comparison W: 0.9080

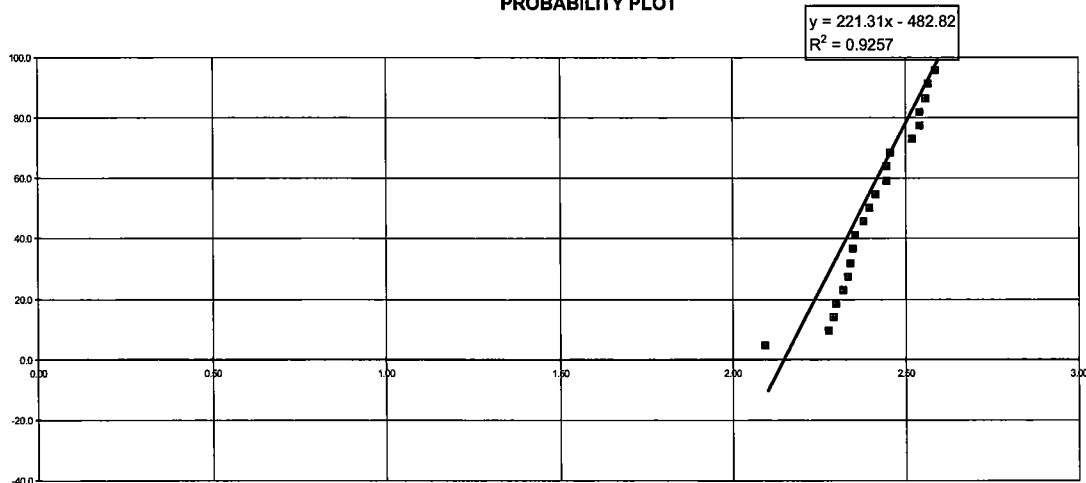
Normality?: Appears LogNormally Distributed

log()
Number of Samples: 21
Sample Mean: 2.408
Sample Standard Deviation: 0.123

25% Quartile: 216.0
50% Quartile(median): 250.0
75% Quartile: 334.0
Inter-Quartile Range: 118.00
Upper Cutoff: 511.00

log() Natural Scale
Required Level of Confidence: 95%
Upper Confidence Limit: 2.45
Upper Tolerance Limit: 2.62 420.7

PROBABILITY PLOT



■ Sample Data

Linear (Sample Data)

STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH

LOCATION: MW-408D

COMPOUND: Trichloroethene

COMMENT:

Order	Sample Concentration
1	190.00
2	210.00
3	260.00
4	290.00
5	310.00
6	320.00
7	330.00
8	370.00
9	410.00
10	433.00
11	440.00
12	470.00
13	520.00
14	545.00
15	614.00
16	623.00
17	624.00
18	786.00
19	819.00
20	1010.00
21	1540.00
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
4.5	-1.69
9.1	-1.34
13.6	-1.10
18.2	-0.91
22.7	-0.75
27.3	-0.60
31.8	-0.47
36.4	-0.35
40.9	-0.23
45.5	-0.11
50.0	0.00
54.5	0.11
59.1	0.23
63.6	0.35
68.2	0.47
72.7	0.60
77.3	0.75
81.8	0.91
86.4	1.10
90.9	1.34
95.5	1.69

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
1350.00	0.4643	626.81
800.00	0.3185	254.80
559.00	0.2578	144.11
496.00	0.2119	105.10
314.00	0.1736	54.51
303.00	0.1399	42.39
284.00	0.1092	31.01
175.00	0.0804	14.07
110.00	0.0530	5.83
37.00	0.0263	0.97
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	

Shapiro-Wilk Sum: 1279.604

Shapiro-Wilk W: 0.833

Critical Value: 5%

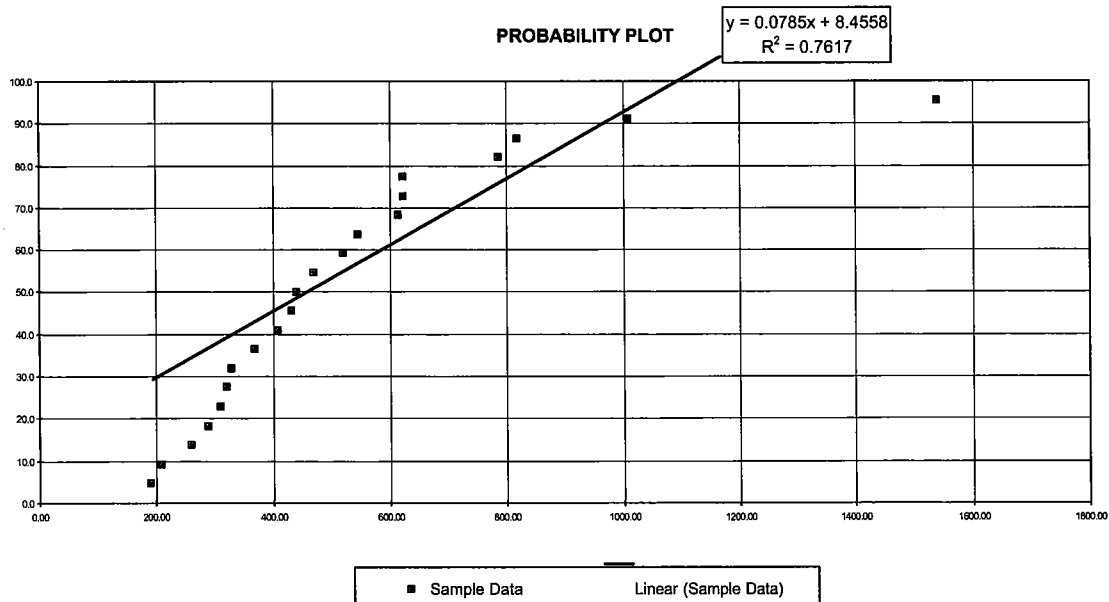
Shapiro-Wilk Comparison W: 0.9080

Normality?: Does Not Appear Normally Distributed

Number of Samples: 21
Sample Mean: 529.238
Sample Standard Deviation: 313.570

25% Quartile: 320.0
50% Quartile(median): 440.0
75% Quartile: 623.0
Inter-Quartile Range: 303.0
Upper Cutoff: 1077.5

Required Level of Confidence: 95%
Upper Confidence Limit: 647.25
Upper Tolerance Limit: 1082.8



STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH

LOCATION: MW-408D

COMPOUND: Trichloroethene

COMMENT:

Order	Sample Log Conc.
1	2.28
2	2.32
3	2.41
4	2.46
5	2.49
6	2.51
7	2.52
8	2.57
9	2.61
10	2.64
11	2.64
12	2.67
13	2.72
14	2.74
15	2.79
16	2.79
17	2.80
18	2.90
19	2.91
20	3.00
21	3.19
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
4.5	-1.69
9.1	-1.34
13.6	-1.10
18.2	-0.91
22.7	-0.75
27.3	-0.60
31.8	-0.47
36.4	-0.35
40.9	-0.23
45.5	-0.11
50.0	0.00
54.5	0.11
59.1	0.23
63.6	0.35
68.2	0.47
72.7	0.60
77.3	0.75
81.8	0.91
86.4	1.10
90.9	1.34
95.5	1.69

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
0.91	0.4643	0.42
0.68	0.3185	0.22
0.50	0.2578	0.13
0.43	0.2119	0.09
0.30	0.1736	0.05
0.29	0.1399	0.04
0.27	0.1092	0.03
0.17	0.0804	0.01
0.10	0.0530	0.01
0.04	0.0263	0.00
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.00	

Shapiro-Wilk Sum: 1.002

Shapiro-Wilk W: 0.984

Critical Value: 5.0%

Shapiro-Wilk Comparison W: 0.9080

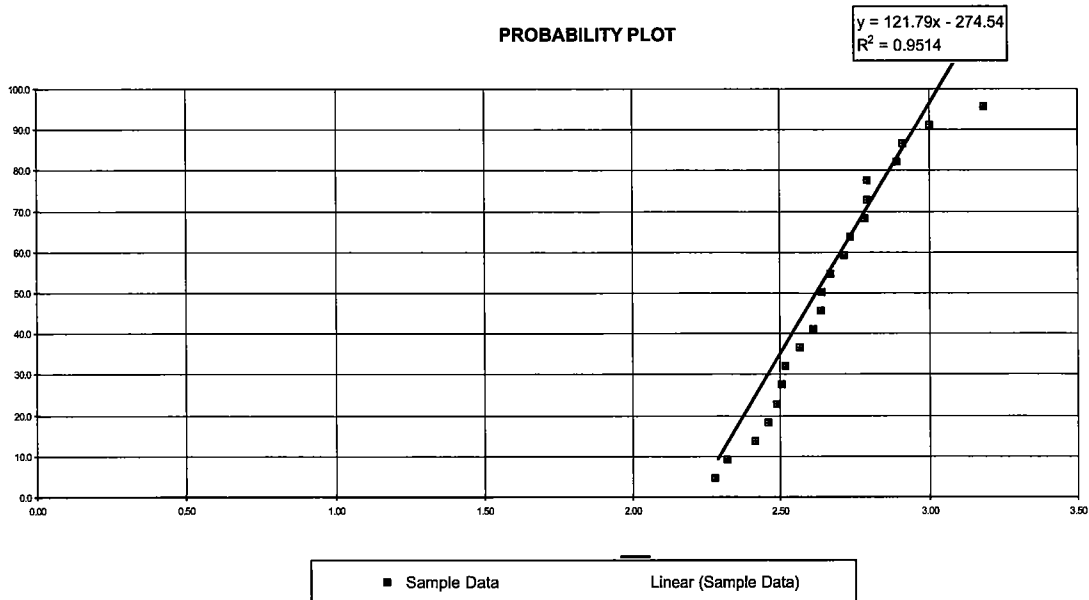
Normality?: Appears LogNormally Distributed

log()
Number of Samples: 21
Sample Mean: 2.665
Sample Standard Deviation: 0.226

25% Quartile: 320.0
50% Quartile(median): 440.0
75% Quartile: 623.0
Inter-Quartile Range: 303.00
Upper Cutoff: 1077.50

log() Natural Scale
Required Level of Confidence: 95%
Upper Confidence Limit: 2.75
Upper Tolerance Limit: 3.06 1157.0

PROBABILITY PLOT



STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-409D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Concentration
1	1.4
2	7.1
3	7.8
4	17
5	21
6	27
7	28
8	38
9	54
10	61
11	75.7
12	90.4
13	100
14	120
15	133
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Probability	Quartile
6.3	-1.53
12.5	-1.15
18.8	-0.89
25.0	-0.67
31.3	-0.49
37.5	-0.32
43.8	-0.16
50.0	0.00
56.3	0.16
62.5	0.32
68.8	0.49
75.0	0.67
81.3	0.89
87.5	1.15
93.8	1.53

Residual	Coefficient (a)	Product (b)
131.60	0.5150	67.77
112.90	0.3306	37.32
92.20	0.2495	23.00
73.40	0.1878	13.78
54.70	0.1353	7.40
34.00	0.0880	2.99
26.00	0.0433	1.13
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	

Shapiro-Wilk Sum:	153.406
Shapiro-Wilk W:	0.915
Critical Value:	5%
Shapiro-Wilk Comparison W:	0.8810

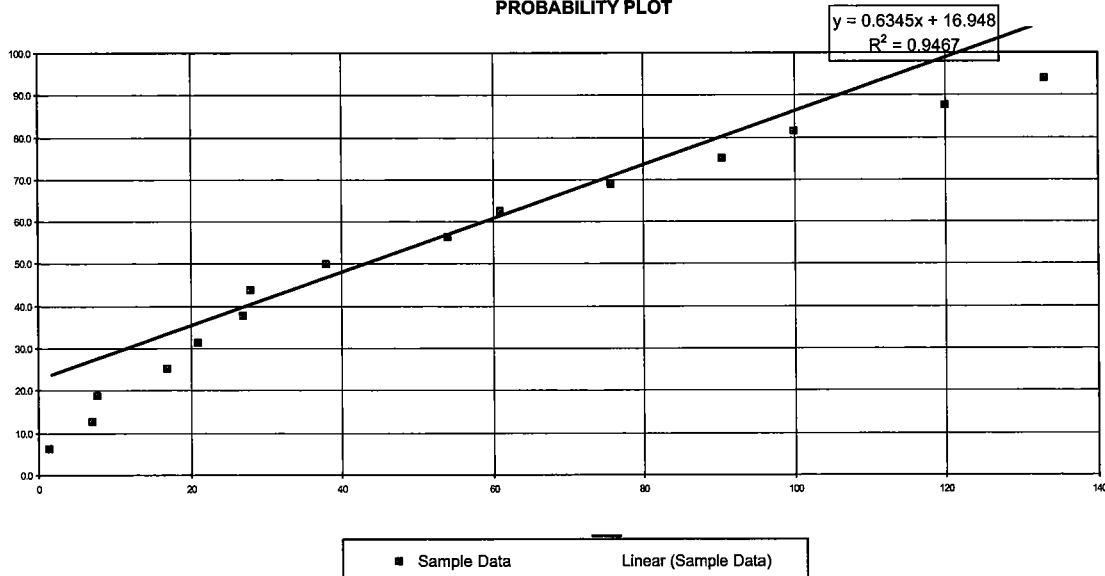
Normality?: Appears Normally Distributed

Number of Samples: 15
Sample Mean: 52.093
Sample Standard Deviation: 42.865

25% Quartile: 19.0
50% Quartile(median): 38.0
75% Quartile: 83.1
Inter-Quartile Range: 64.1
Upper Cutoff: 179.1

Required Level of Confidence: 95%
Upper Confidence Limit: 71.59
Upper Tolerance Limit: 130.1

PROBABILITY PLOT



STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-409D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Log Conc.
1	0.15
2	0.85
3	0.89
4	1.23
5	1.32
6	1.43
7	1.45
8	1.58
9	1.73
10	1.79
11	1.88
12	1.96
13	2.00
14	2.08
15	2.12
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
6.3	-1.53
12.5	-1.15
18.8	-0.89
25.0	-0.67
31.3	-0.49
37.5	-0.32
43.8	-0.16
50.0	0.00
56.3	0.16
62.5	0.32
68.8	0.49
75.0	0.67
81.3	0.89
87.5	1.15
93.8	1.53

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
1.98	0.5150	1.02
1.23	0.3306	0.41
1.11	0.2495	0.28
0.73	0.1878	0.14
0.56	0.1353	0.08
0.35	0.0880	0.03
0.29	0.0433	0.01
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.00	

Shapiro-Wilk Sum:	1.956
Shapiro-Wilk W:	0.910
Critical Value:	5.0%
Shapiro-Wilk Comparison W:	0.8810

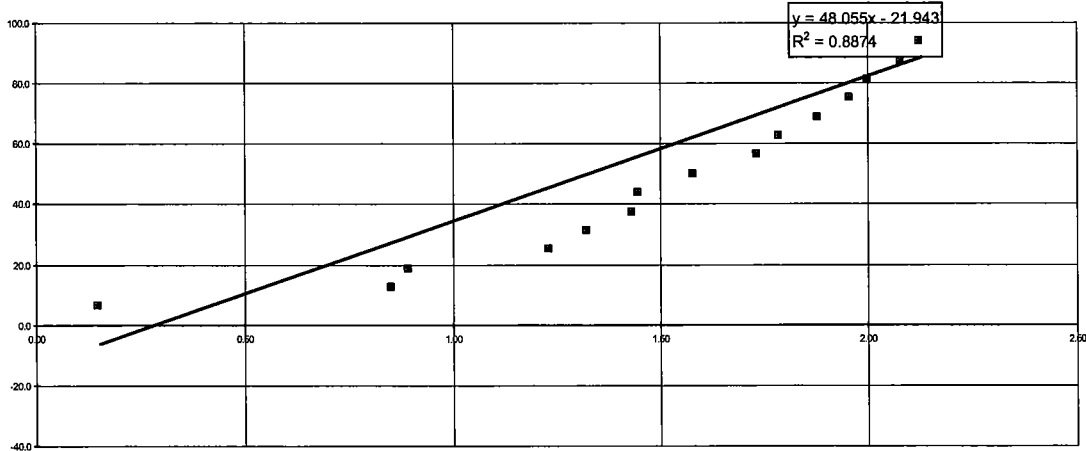
Normality?: Appears LogNormally Distributed

Number of Samples:	log() 15
Sample Mean:	1.497
Sample Standard Deviation:	0.548

25% Quartile:	19.0
50% Quartile(median):	38.0
75% Quartile:	83.1
Inter-Quartile Range:	64.05
Upper Cutoff:	179.13

Required Level of Confidence:	log() 95%	Natural Scale
Upper Confidence Limit:	1.75	
Upper Tolerance Limit:	2.49	311.8

PROBABILITY PLOT



STATISTICAL EVALUATION USING NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-410D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Concentration
1	440
2	450
3	480
4	540
5	590
6	610
7	700
8	700
9	730
10	730
11	760
12	1040
13	1460
14	1570
15	1760
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution Probability	Quartile
6.3	-1.53
12.5	-1.15
18.8	-0.89
25.0	-0.67
31.3	-0.49
37.5	-0.32
43.8	-0.16
50.0	0.00
56.3	0.16
62.5	0.32
68.8	0.49
75.0	0.67
81.3	0.89
87.5	1.15
93.8	1.53

Shapiro-Wilk Normality Test Residual	Coefficient (a)	Product (b)
1320.00	0.5150	679.80
1120.00	0.3306	370.27
980.00	0.2495	244.51
500.00	0.1878	93.90
170.00	0.1353	23.00
120.00	0.0880	10.56
30.00	0.0433	1.30
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	

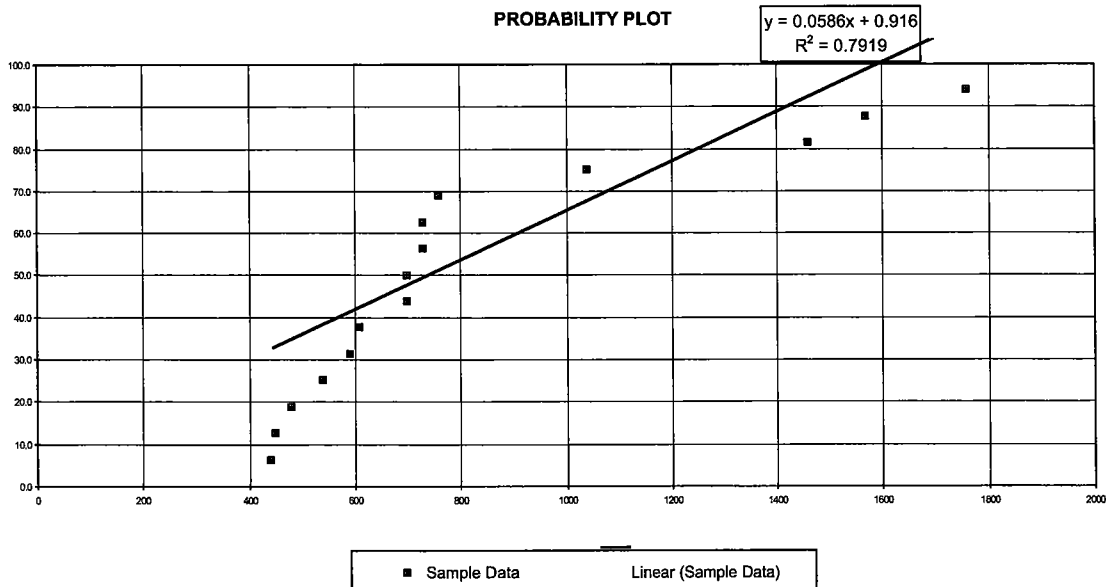
Shapiro-Wilk Sum:	1423.342
Shapiro-Wilk W:	0.804
Critical Value:	5%
Shapiro-Wilk Comparison W:	0.8810

Normality?: Does Not Appear Normally Distributed

Number of Samples: 15
Sample Mean: 837.333
Sample Standard Deviation: 424.306

25% Quartile: 565.0
50% Quartile(median): 700.0
75% Quartile: 900.0
Inter-Quartile Range: 335.0
Upper Cutoff: 1402.5

Required Level of Confidence: 95%
Upper Confidence Limit: 1030.29
Upper Tolerance Limit: 1609.2



STATISTICAL EVALUATION USING LOG-NORMAL DISTRIBUTION

PROJECT: Delphi Corporation - Vandalia Facility - Vandalia, OH
LOCATION: MW-410D
COMPOUND: Trichloroethene
COMMENT:

Order	Sample Log Conc.
1	2.64
2	2.65
3	2.68
4	2.73
5	2.77
6	2.79
7	2.85
8	2.85
9	2.86
10	2.86
11	2.88
12	3.02
13	3.16
14	3.20
15	3.25
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

Normal Distribution	
Probability	Quartile
6.3	-1.53
12.5	-1.15
18.8	-0.89
25.0	-0.67
31.3	-0.49
37.5	-0.32
43.8	-0.16
50.0	0.00
56.3	0.16
62.5	0.32
68.8	0.49
75.0	0.67
81.3	0.89
87.5	1.15
93.8	1.53

Shapiro-Wilk Normality Test		
Residual	Coefficient (a)	Product (b)
0.60	0.5150	0.31
0.54	0.3306	0.18
0.48	0.2495	0.12
0.28	0.1878	0.05
0.11	0.1353	0.01
0.08	0.0880	0.01
0.02	0.0433	0.00
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.0000	
	0.00	

Shapiro-Wilk Sum: 0.686

Shapiro-Wilk W: 0.895

Critical Value: 5.0%

Shapiro-Wilk Comparison W: 0.8810

Normality?: Appears LogNormally Distributed

	log()
Number of Samples:	15
Sample Mean:	2.879
Sample Standard Deviation:	0.194

25% Quartile:	565.0
50% Quartile(median):	700.0
75% Quartile:	900.0
Inter-Quartile Range:	335.00
Upper Cutoff:	1402.50

	log()	Natural Scale
Required Level of Confidence:	95%	
Upper Confidence Limit:	2.97	
Upper Tolerance Limit:	3.23	1704.4

PROBABILITY PLOT

